

INTERPERSONAL PROCESSES IN CLOSE RELATIONSHIPS

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INTRODUCTION

The last time the *Annual Review of Psychology* dealt with the psychology of relationships was in 1978, when Huston & Levinger discussed recent advances in the study of attraction and relationships. Eighty percent of that research, they maintained, involved subjects who were “personally irrelevant” to each other, in the sense that they had never met before, did not expect to see each other in the future, and might not come face-to-face during the study. Perhaps because this paradigm seemed to many psychologists limited in its usefulness for understanding relationships, and perhaps because William Proxmire’s bestowal of a “Golden Fleece” award upon some of the best work in this area made such research politically problematic, research activity waned in the late 1970s and early 1980s. Fortunately, with a turn toward more realistic laboratory and naturalistic research designs, this decline has been reversed in recent years, so that in the ebb and flow of research productivity, close relationships are once again riding a wave of growing enthusiasm.

Signs of this trend are abundant. Journal articles reporting new theoretical positions and empirical findings appear with increasing frequency; a new journal devoted exclusively to the study of relationships, the *Journal of Personal and Social Relationships*, was inaugurated in 1984; two international, interdisciplinary societies for the study of relationships have been formed, one in 1984 and one in 1987; at least two continuing series of edited volumes reporting and commenting on relationship research have been initiated; and countless edited volumes dealing with relationship phenomena in one form or another have been published.

In this review we discuss what we believe to be some of the most important developments in this new era of relationship research. Our review is specifically organized around interpersonal processes that affect the course and conduct of interpersonal relationships, rather than, as is common in the literature, relationship types (e.g. friendship, marriage). We take this approach because we believe that interpersonal processes, when broadly construed, offer principles that can enhance our understanding of almost every type of relationship. We discuss three processes: interdependence, emotion, and intimacy. The recent literature on adult close relationships largely focuses on friendship and romance, and these three processes describe much of what is important not only in these particular relationships, but, we are confident, in many other types of close relationships as well. Although our coverage is necessarily selective, we endeavor to describe those studies that from our vantage point have the most potential for increasing our knowledge and suggesting new research.

This chapter is divided into six parts. Our first three sections review new developments in interdependence, emotion, and intimacy. The fourth section

discusses recent studies of love, a reemerging topic of intrinsic importance to the study of close relationships. Through the example of love, we show how general processes of interdependence, emotion, and intimacy may apply to specific interpersonal states and relationships. Next, we examine research on individual differences, an area with promising new findings and paradigms yet largely unrealized potential for providing important insights about interpersonal processes. Finally, we describe recent methodological innovations well suited for expanding the range of ideas that can be studied empirically, and for enhancing the technical quality of our research.

INTERDEPENDENCE

Definitions of Relationships and of Closeness

An important book in the relationship field, *Close Relationships*, by Kelley, Berscheid, Christensen, Harvey, Huston, Levinger, McClintock, Peplau, and Peterson, appeared in 1983. Central to this volume are definitions of relationship and close relationship. According to Kelley et al, if two people's behaviors, emotions, and thoughts are mutually and causally interconnected, the people are interdependent and a relationship exists. A relationship is defined as close to the extent that it endures and involves strong, frequent, and diverse causal interconnections.

Kelley et al's definitions denote the tasks of our discipline—to describe and understand the nature of interdependence within pairs of people. That is, we seek to describe the events in which pairs are involved, the causal connections between those events, and the enduring environmental and social conditions that alter the nature of interdependence in such relationships. We also attempt to summarize event patterns over time in order to identify general properties of interdependence. Most importantly, we aim to identify the nature of interdependence in ongoing relationships of different types, in different situations, and at different points in relationship development. Kelley et al's definition of closeness, although not the only one possible, helps indicate the kind of relationships in which we believe researchers in our field ought to be primarily interested. It defines the heretofore elusive construct of closeness in a manner that captures some of the meaning that people wish to convey when describing relationships as close, and it includes those relationships—both friendly and hostile—that are most important to people. It also permits empirical tests of the implications of closeness. For instance, as will be seen below in the section on emotion, such closeness substantially affects the experience of emotion in relationships.

Kelley et al's framework encourages researchers to conceptualize interdependence broadly, in terms of ongoing chains of mutual influence between two people. Most research has instead been confined to particular

components of the larger process. For example, aspects of interdependence are involved in maintaining self-evaluation (Swann & Read 1981; Tesser 1987), making joint decisions (Gottman et al 1979), solving conflicts (Gottman et al 1977), and deciding to maintain or dissolve dissatisfying relationships (Rusbult et al 1982; Rusbult & Zembrodt 1983). Rather than reviewing all such work, we concentrate on advances in outcome interdependence, a topic long of interest to social psychologists. That is, what are the processes involved in the giving and acceptance of benefits in relationships, and how does adherence to such processes relate to satisfaction with the relationship? We focus on studies that examine these processes in romantic relationships and friendships, and that deal with need satisfaction. This research relates closely to emotion and intimacy, two interdependent processes that are discussed next.

Norms Governing the Giving and Acceptance of Benefits

The questions of when and how people benefit one another have generated a great deal of empirical and theoretical work for almost 30 years, stimulated initially by Thibaut & Kelley (1959) and Walster et al (1973). We see no slowing of this trend in recent years. If anything, interest in this area, particularly in what norms are considered just or fair, has expanded, as evidenced by a great many recent edited volumes and relevant review articles (e.g. Bierhoff et al 1986; Cook & Hegtvedt 1983; Gergen et al 1980; Greenberg & Cohen 1982; Folger 1984; Lerner & Lerner 1981; Masters & Smith 1987; Messick & Cook 1983; McClintock et al 1984; Mikula 1980; Pruitt & Rubin 1985) as well as by numerous empirical studies.

Continuing the trend begun in the 1960s, some new work tests the applicability of the equity norm to understanding interdependence (e.g. Hatfield et al 1985). A more recent trend emphasizes the diversity of distributive and procedural justice norms (e.g. Deutsch, 1985), although only norms of equality and of needs have actually received much attention in empirical work. In addition to traditional research concerning the applicability of norms governing the giving and acceptance of resources among superficial acquaintances or hypothetical others, some researchers now examine the nature of interdependence in giving and accepting resources in close, intimate, ongoing social relationships such as friendships, romantic relationships, and marital relationships (e.g. Berg 1984; Berg & McQuinn 1986; Hatfield & Traupmann 1980) or in situations in which subjects are led to expect and/or desire a close relationship with another (e.g. Clark & Mills 1979).

Other related changes have also taken place. These include: (a) increased theorizing about and empirical work regarding need-based norms for giving and receiving benefits (e.g. Clark & Mills 1979; Kelley 1979; Miller & Berg 1984; Schwinger 1986); (b) greater reliance on field-based, survey, or in-

terview work using correlational designs, in addition to laboratory experiments (e.g. Berg 1984; Berg & McQuinn 1986; Rook 1987a); and (c) a shift toward more descriptive work (e.g. Hays 1985; see especially Chapter 2 of Kelley et al 1983).

CONTINUING WORK ON EQUITY The direction of equity theory research provides a clear example of two of the trends mentioned above—toward supplementing laboratory experiments with correlational studies, and toward examining ongoing, close relationships. Earlier equity studies almost exclusively featured laboratory interactions between strangers who did not expect to see each other again. This work, reviewed by Walster et al (1978), indicates that in such circumstances people tend to follow an equity norm (i.e. the ratio of each person's inputs relative to their outcomes should be equivalent). The results of some more recent surveys of ongoing close relationships by equity theorists are also consistent with equity propositions. For instance, people who hold global impressions that their relationships are equitable are more confident than those who do not of staying together in the future (Hatfield et al 1985; Sabatelli & Cecil-Pigo 1985), report being more content in the relationship (Hatfield et al 1985), are less likely to have extramarital sexual affairs (Hatfield et al 1985), report more liking for the others with whom they have such relationships (Rees & Segal 1984, see results for Team 1), evaluate outcomes derived from their marriage more favorably (Sabatelli & Cecil-Pigo 1985), and report more positive affect and less negative affect in their relationships (Sprecher 1986).

Other findings by equity theorists have been unexpected but not in conflict with equity theory. Hatfield et al (1985) found that women are more distressed with being overbenefited in close relationships than men are, whereas men are more distressed by underbenefit. Sprecher (1986) demonstrated that global impressions of inequity explain more variance in men's than women's emotions and that for men inequity is equally related to positive and negative emotions whereas for women inequity is more related to negative emotions. Finally, Berg (1984) reported that women perceive their relationships with other women to be more equitable than men perceive their relationships with other men.

Still other findings do not support equity theory. For instance, Hatfield et al (1985) note the absence of evidence for relationships' becoming more equitable over time, as predicted by equity theory; and more recent studies find either no change (Berg & McQuinn 1986) or decreases in roommates' perceptions of equity over time (Berg 1984). Further, a number of studies in which both global impressions of equity and the total number of benefits have been assessed suggest that the total number of benefits received predicts success in that relationship better than equity does. For instance, Cate et al

(1985) gave dating couples questionnaires that included measures of global equity and global equality (Hatfield's measures) as well as of the absolute levels of rewards received. Only absolute reward level successfully discriminated stable relationships from those that did not last. Neither equity nor equality distinguished stable and unstable relationships after reward level was controlled. Similarly, Michaels et al (1984) examined the effects of both equity (rated globally and on a dimension-by-dimension basis) and benefits received in close, opposite-sex relationships. Although measures of equity and equality did account for significant variance in relationship satisfaction in this work, these proportions were small compared to those accounted for by overall level of positive outcomes.

Berg reports two additional studies suggesting that overall reward level may be a better predictor of relationship success than perceived equity is (Berg 1984; Berg & McQuinn 1986). In the first, pairs of same-sex roommates were surveyed soon after meeting and again later in the year. The best predictors of liking and satisfaction were rewards received and comparison levels for alternatives. Perceived equity did not predict liking and satisfaction. In addition, roommates who planned to stay together increasingly met each other's needs and desires as the year progressed, whereas those who planned to separate showed no such increase. Once again, levels of equity or changes in equity did not discriminate these two groups. Berg's second study involved members of opposite-sex romantic relationships surveyed early in their relationship and again four months later. Couples still dating at the second point in time demonstrated greater love, more relationship-maintaining behaviors, more favorable evaluation of the relationship, and more self-disclosure than did those who had broken up. Perceived equity did not differentiate continuing and noncontinuing relationships at either point in time. Finally, other studies have also shown that total benefits received predict friendship development (e.g. Hays 1985), although equity was not assessed in this work.

The fact that total benefits received (or total desires met) predicts relationship success has led some to suggest that a simple reinforcement hypothesis best accounts for the data (e.g. Michaels et al 1984). However, recently reported results argue against this interpretation. A reinforcement approach also predicts that costs should be negatively correlated with satisfaction and success, and benefits minus costs should predict success best. However, although some studies have shown such a relationship (Rusbult 1980a, Study 2; 1980b), other studies have shown no relationship between costs and relationship success (Rusbult 1980a, Study 1; Hays 1985). Furthermore, in his longitudinal study of ongoing relationships, Hays found that an index of benefits *plus* costs was a better predictor of relationship success than was an index of benefits *minus* costs. We return to this finding in the next section.

NORMS OTHER THAN EQUITY Findings such as those reviewed above notwithstanding, some theorists have argued that equity norms apply to diverse situations—including intimate, ongoing relationships—if the characteristics considered to be inputs and outcomes are changed according to the situation and relationship (for example, by redefining inputs and outcomes in terms of needs). Critics have replied that equity theory cannot accommodate such findings without becoming so flexible that the concept of equity is no longer useful (Folger 1986; Furby 1986; Reis 1984). As a result, researchers have tried to identify more specific justice rules and personality and situational factors that influence choices among them. Alternative norms that might apply include mutual responsiveness to needs and equality (Deutsch 1975), and indeed up to 11 (Deutsch 1975) or even 17 (Reis 1984) alternative justice rules (e.g. one's own needs should be met first, power should determine distribution of benefits) have been proposed. Researchers have further argued, and provided supporting evidence, that such norms are differentially applicable to relationships depending upon various situational factors and individual differences, such as the type of relationship between partners (Clark & Mills 1979; Lerner et al 1976), gender (Kahn et al 1980; Major 1987; Major et al 1984), orientations toward relationships (Clark et al 1987a,b; Major & Adams 1983; Murstein & Azar 1986; Swap & Rubin 1983), and how allocation tasks are defined (Reis 1984).

Where have such arguments led? Only two justice norms other than equity actually have received much empirical attention—need (benefits should be distributed according to people's needs) and equality (benefits should be distributed equally). To us, the growing focus on these norms reflects interdependence researchers' increased attention to ongoing close relationships. After all, need and equality are more likely to apply in such relationships than in economic exchanges or in encounters between strangers (Deutsch 1985).

Several researchers have examined the social context of need-based and equality norms in contrast to equity. For example, Deutsch (1975, 1985) suggested that norm preferences depend on people's goals in a particular relationship. According to Deutsch, equity norms predominate when maximizing economic productivity is the goal. When cooperation or positive socioemotional bonds are more salient, however, equality or need-based rules tend to prevail (see also Mikula 1980). Other researchers have emphasized the nature of ongoing types of relationships rather than situational goals as determinants of rule preference. Clark & Mills (1979; Mills & Clark 1982), for example, distinguished between exchange relationships, in which benefits are expected in response to past benefits or in anticipation of future comparable benefits, and communal relationships, in which members feel mutual responsibility for each other's welfare and give benefits either in response to needs or to demonstrate concern for the other. Communal relationships often

occur between family members, romantic partners, and friends, whereas exchange relationships are frequent between strangers meeting for the first time, acquaintances, or business associates. Mikula & Schwinger (1978) have also emphasized the impact of relationship type on rule preferences. They postulated that relationships characterized by neutral affect follow a contributions (equity) rule, those with positive affect follow an equality rule, and those with very positive affect follow a need-based rule. It should be noted, however, that the Clark/Mills and Mikula/Schwinger conceptualizations are quite distinct. Communal relationships are not always characterized by positive affect, nor are exchange relationships necessarily characterized by neutral affect.

Finally, in connection with the shift toward emphasizing the importance of needs, a new development in Kelley and Thibaut's theorizing about the nature of interdependence should be mentioned (Kelley 1979; Kelley & Thibaut 1978). In their original work, Thibaut & Kelley (1959) assumed that people were motivated to maximize their own rewards while minimizing their costs. In more recent work, they emphasize that transformations of outcome matrices may take place such that, for example, one person may feel personally rewarded when the other's needs are met. The idea that such transformations take place is, of course, consistent with the theories cited in the preceding paragraph, which specify when such transformations will occur.

Empirical research has confirmed the relevance of equality and need-based rules to understanding interaction in certain ongoing relationships. Austin (1980), for example, had pairs of college roommates and strangers work together on a task and receive a joint reward. One member of each dyad was put in charge of dividing the reward between both partners. Roommates tended to overlook input differences in contributions and allocate the reward equally, whereas strangers chose merit when they themselves excelled and equality when they performed poorly. In two role-playing studies, Lamm & Schwinger (1980, 1983) asked subjects how they would allocate money to friends (or to people to whom they were highly attracted) versus strangers. Subjects were especially likely to take needs into account with friends and with others to whom they were highly attracted.

The most extensive program of research on need-based norms has been conducted by Clark & Mills and their colleagues. Mills & Clark (1982), for example, reported a series of experiments in which expected relationship type was varied. Some subjects were led to anticipate that an attractive other was interested in befriending new, similar others (communal conditions); other subjects were led to expect that the other was not available for new relationships (exchange conditions). When exchange relationships were expected, subjects followed equity principles—that is, they reacted positively to immediate compensation for favors and to requests for repayment of accepted

favors (Clark & Mills 1979), kept track of individual inputs on jointly rewarded tasks (Clark 1984), and felt exploited when their help was not reciprocated (Clark & Waddell 1985). In contrast, when communal relationships were anticipated, subjects reacted negatively to immediate compensation for favors (Clark & Mills 1979), did not keep track of individual inputs on joint tasks (Clark 1984), and did not feel exploited by unrequited help (Clark & Waddell 1985). Instead, they were more likely to keep track of the other's needs even when there was no opportunity for repayment (Clark et al 1986), help others, and respond to their sadness with increased helping (Clark et al 1987a). These researchers have also outlined types of communications likely to lead to feelings of exploitation in communal and exchange relationships (Mills & Clark 1986) and have provided some evidence that these findings will apply not only when subjects are led to expect communal relationships but in ongoing friendships as well (Clark 1984, Studies 2 & 3).

It is noteworthy that the evidence reviewed earlier indicating that benefits received predict satisfaction in friendship and romance relations is consistent with research on need-based norms. Moreover, Hays's (1985) finding that benefits plus costs predicted relationship success better than benefits minus costs can be explained if one assumes that members of such relationships feel responsible for each other's needs. That is, the more each person feels responsible for the other, the more benefits each receives as the other meets his or her needs *and* the more costs each incurs in meeting the other's needs.

OTHER FINDINGS RELEVANT TO OUTCOME INTERDEPENDENCE Other recent advances in our understanding of interdependence deal with changes in interdependence over time and with the nature of resources given and received in different types of relationships. Looking at the latter question first, in contrast to the predictions of several theories of relationship development (e.g. Altman & Taylor 1973), recent studies suggest that patterns of outcome interdependence differentiate relationships destined to become close from those not so destined soon after they are initiated. Berg, for example, collected descriptions of exchange patterns (e.g. indexes of rewards received, companionship, consideration, and affection) in same-sex (Berg 1984) and opposite-sex (Berg & McQuinn 1986) relationships during the first weeks of a relationship's life and approximately four months later. The early exchange measures predicted ratings of satisfaction and desires to continue the relationship at four months virtually as well as the later measures did. Hays (1984, 1985) reported similar findings. He showed that in friendships destined to become close, giving of goods, services, and support increased sharply during the first six weeks of a relationship and then leveled off. On the other hand, relationships that remained distant showed steady declines in benefits given

from early stages until the end of the study at 12 weeks. [Berg & Clark (1986) discuss this issue more extensively.]

These studies also suggest that as relationships develop, the nature of benefits received may become more important than the total quantity. For example, Berg's (1984) study found a significant correlation between brand new roommates' reports of the number of benefits received from the other, but no correlation in their reports of receiving the specific benefits they thought would help them most. Later in the year, this pattern was reversed. Berg suggests that this change indicates that balancing the total benefits given and received matters early in a relationship, but that meeting each other's needs becomes more important as partners grow close. Relatedly, Hays (1984, 1985) showed that friendship intensity ratings continued to rise even after ratings of the total number of benefits received had peaked.

We have also learned more about the types of resources exchanged between friends. Hays (1984), for example, reported that emotional support and the provision of a confidant differentiated close and nonclose friendships. Other studies have examined the relevance of Foa & Foa's (1980) resource typology in various types of relationships. Foa & Foa specified six categories of resources: love, status, information, services, goods, and money. Lloyd et al (1982) found that in casual friendship, receipt of status predicted relationship satisfaction, whereas in romantic couples, information and love but not status related to satisfaction. Törnblom & Fredholm (1984) provided similar results. Their data indicated that exchange of love and information led to perceptions of greater friendship than did exchanges of goals, money, and services, whereas exchanges of status led to perceptions of less friendship. Finally, Berg & McQuinn (1986), using Foa & Foa's (1980) classification of resources along dimensions of particularism/universalism (the extent to which the value of a resource depends on who provides it) and symbolism (how tangible the resource is), found that exchange of particular and symbolic rewards increased as romantic relationships deepened.

Considerable progress has occurred in identifying and describing norms governing outcome interdependence in friendship and romance. In the future it will be important also to conduct research on such patterns in other types of ongoing relationships (e.g. between teachers and students, or in exploitive relationships). Research on the moderating impact of situational and personality variables would also be useful, as would research specifying the manner in which different patterns of outcome interdependence affect relationship development and functioning.

EMOTION

Much of the emotion people experience arises in the context of social relationships, particularly close or intimate relationships (Averill 1983; Berscheid

1983; Bowlby 1969; Csikszentmihalyi & Larson 1984; DeRivera 1984; Scherer et al 1983; Schwartz & Shaver 1987; Trevarthen 1984). However, researchers primarily interested in emotion have typically studied it in nonsocial contexts, examining processes that seem more *intra* than *interpersonal* (see, for instance, much of the research discussed in Clark & Fiske 1982). Moreover, until recently, relationship researchers have tended to neglect emotion, in large part owing to the tendency, noted earlier, to study initial encounters between strangers—interactions characterized by little emotion.

With the recent upswing in studies of close relationships, interest in emotion has grown. Some researchers have considered the impact of perceivers' emotions on initial impressions of others (e.g. Forgas & Moylan 1987). Other investigators have examined the role of a person's expressed emotion in determining observers' impressions of and subsequent behavior toward him or her (e.g. Sommers 1984; Clark et al 1987b). Additional (and we believe some of the most important) work has focused on the occurrence and patterning of emotion in ongoing relationships.

Still other researchers, coming from a variety of distinct theoretical backgrounds, conceive of emotion as involving complex patterns of concerns, appraisals, and action tendencies. They have begun to conduct empirical work identifying the characteristic, often social, antecedents and consequences of specific emotions (e.g. Averill 1982, 1983; Scherer et al 1986; Schwartz & Shaver 1987; Shaver et al 1987). For example, Shaver et al examined prototypes of various emotions relevant to relationships, including fear, sadness, anger, joy, and love. Finally, several researchers have begun to explore the implications of existing social psychological theories for understanding emotion in relationships (Bradbury & Fincham 1987; Kelley et al 1987; Salovey & Rodin 1984; Sprecher 1986; Tesser 1987).

Perceivers' Emotions, Impressions of Others, and Social Interest

We first consider recent work showing that perceivers' emotions influence impressions of others. Bower (1981) demonstrated that subjects hypnotized to feel angry were more likely than subjects induced to feel happy to interpret pictures of people in a negative manner. Further, Forgas et al (1984) found that subjects hypnotized to feel good believed that they and their interview partners had displayed more positive, prosocial actions. In contrast, subjects in negative moods judged themselves to have exhibited more negative actions, and their partners to have shown approximately the same number of positive and negative behaviors. [See Forgas & Bower (1987) for further evidence consistent with these findings.]

Because these particular studies lacked a neutral-mood condition, we cannot tell whether negative mood, positive mood, or both are responsible for these effects. Fortunately, other studies have included neutral-mood control

conditions, and these studies, taken together, reveal both evidence for positive moods' increasing the favorability of judgments of others (e.g. Fiedler et al 1986; Clark & Waddell 1983; Schiftenbauer 1974; Forgas & Moylan 1987) and evidence for negative moods' decreasing the favorability of judgments of others (e.g. Griffitt 1970), social interest in others (Crandall 1978), and perceptions of the amount of social support available from others (Procidano & Heller 1983). However, it should be noted that studies that have included *both* positive and negative mood conditions as well as control conditions often have found only effects for positive moods (e.g. Clark & Waddell 1983; Forgas & Moylan 1987). This suggests that the effect of mood on judgments about others may be stronger for positive than for negative moods, an idea further supported by consideration of the broader literature on the effects of moods on judgment (see Isen 1985).

Finally, a few studies have identified boundary conditions regarding these effects. Positive moods do not always enhance impressions of others, such as when there is little positive information about the other [see Forgas & Moylan (1987) regarding judgments of drunk drivers and heroin traffickers]. Moreover, it appears that arousal accompanying strong inductions of positive emotion sometimes can be misattributed to repulsion from physically unattractive targets, as well as attraction toward physically attractive targets (White et al 1981). Further, turning to boundary conditions for the effects of negative moods, it is similarly the case that arousal accompanying strong inductions of negative emotion may sometimes be misattributed to attraction to a physically attractive target, as well as repulsion from a physically unattractive target (White et al 1981). Overall, however, research on moods and judgments most generally indicates that positive moods often and negative moods sometimes influence impressions of self and others in a way that makes judgments congruent with moods.

Future research is needed to determine when and which moods influence such judgments—a task that should be aided by current efforts to identify mechanisms behind such effects (see, for instance, Bower 1981; Isen 1984; Schwarz & Clore 1983). Still another important task will be to consider how perceivers' moods influence impressions of interaction partners and behavior toward them. That moods can have powerful effects on behavior is amply demonstrated by an older literature showing that both positive (e.g. Isen 1970) and negative (e.g. Cialdini et al 1973) moods increase helping, as well as by a more recent literature confirming that such effects occur and examining possible underlying mechanisms (see, for instance, Batson et al 1981; Fultz et al 1986; Cialdini et al 1987; Isen 1984). Little is known, however, about effects of moods on other social behaviors of potential importance to developing, maintaining, and dissolving relationships; and we believe such research has considerable promise. For example, a recent study by Cunning-

ham (1987) demonstrates that happiness increases the happy person's tendency to self-disclose to a partner. In that self-disclosure predicts satisfaction in dating relationships (Berg & McQuinn 1986) and friendship formation (Cohen et al 1986), moods may set off interactive chains of events, perhaps in the manner of self-fulfilling prophecies, that determine whether or not relationships are initiated and developed.

TARGETS' EMOTIONS AND IMPRESSIONS OF TARGETS We next consider how a target person's expressed emotions influence others' impressions of and behavior toward him or her, a topic about which only a small amount of experimental evidence is available. Sommers (1984) asked respondents what emotions they and others experienced on typical days, and then assessed independent observers' reactions to expression of these emotions. Positive emotions were judged to be more typical than negative emotions, and targets who predominantly experienced positive affect were seen as more sociable, conventional, popular, and likeable than others. Sommers' results also revealed that females who expressed negative affect were seen as more unsociable and unpopular than males who expressed the same affect.

Other research suggests that the impact of expressed emotions on others' impressions may depend upon the type of relationship. Clark & Muchant (1987) found that if a communal relationship was expected, expression of emotion produced more positive impressions of the other than if an exchange relationship was expected. Further, Clark et al (1987a, Study 2) found that if a potential donor of help expected a communal relationship with the recipient, that recipient's sadness increased the amount of help offered. In contrast, if an exchange relationship was expected, the recipient's sadness had no effect.¹ Although experimental research on reactions to others' emotions is scarce, given that people react strongly to others' emotions in everyday life, additional experimental studies identifying reactions to a variety of distinct emotions are needed.

EMOTION IN INTERDEPENDENT RELATIONSHIPS The studies described so far investigate emotional processes in relatively simple laboratory paradigms. Other researchers have theorized about and examined emotional interdependence in the more complex context of ongoing relationships. Berscheid (1983; Berscheid et al 1984), for example, recently proposed a model of emotional interdependence in close relationships. Adopting Kelley et al's

¹Although clinical depression involves more than just negative affect, readers interested in people's reactions to a target person's emotional states may also find research by Coyne (1976; Strack & Coyne, 1982) and other depression researchers (e.g. Hammen & Peters 1978; Howes & Hokanson 1979) to be informative.

(1983) framework, described earlier, she views relationships as existing when changes in the cognitive, physiological, or behavioral state of one person influence those states in another person, and vice versa. The relationship is close, furthermore, to the extent that members have frequent, strong, and diverse impact on each other over a long period. Berscheid views emotion as autonomic arousal caused by interruptions in well-practiced, organized action sequences, coupled with cognitive appraisal of that arousal. Putting these points together, Berscheid suggests that emotion in relationships is a direct function of the nature of interdependence in those relationships. If two people are not close, their organized action sequences tend to be independent. Neither has much power to interrupt the other; there should be few interruptions, little resulting arousal, and little emotion in that relationship. In contrast, in close relationships, members' action sequences are closely intertwined. They consequently are especially capable of interrupting each other's well-practiced action sequences and eliciting arousal and emotion. When such interruptions take place, emotion is experienced; when they do not, there is little emotion. Emotions are negative when interruptions block goal attainment and positive when they facilitate reaching a goal or when they are interpreted as benign.

Berscheid's conceptualization is important for several reasons. First, it allows for hypotheses linking relationship closeness (interdependence) to emotional experience. Second, it generates specific predictions regarding emotional activity in different phases of relationships, such as during termination. Dissolution of superficial relationships should produce little emotion. However, if the relationship was close, regardless of prior levels of satisfaction or whether positive or negative emotion was common, termination should produce considerable emotion. Thus, one can understand grief reactions not only in couples who had experienced considerable joy, but also in emotionally quiet (but still intertwined) and intensely negative relationships. The model also explains why satisfying but largely unmeshed relationships may produce little emotion upon termination, as well as why relationships that are quickly replaced (thereby allowing organized action sequences and goal attainment to continue) should yield less emotion.

Simpson (1987) tested some of these ideas. He first determined the length and closeness of ongoing relationships, relationship satisfaction, and perceived ease of finding new relationships. Three months later he assessed emotional distress among those whose relationships had ended. As expected, the greater the interdependence (as indicated by closeness and length) and perceived difficulty of replacement, the greater the distress. Also, counterintuitively but not contrary to Berscheid's theory, earlier feelings of satisfaction with the relationship did not predict distress.

Other researchers have taken on the important task of characterizing emo-

tional interaction that takes place in marriage. For example, Levenson & Gottman (1983) videotaped couples in three situations: waiting together, discussing events of the day, and discussing marital problems. During these times they collected a variety of physiological measures. Spouses later returned separately and, while viewing the videotapes, rated the emotions they had felt throughout the earlier session. Among the major findings were that "physiological linkage" (interrelatedness of spouses' physiological reactions) was higher among distressed than among nondistressed couples, but only during problem discussions. Indeed, 60% of the variance in marital satisfaction could be accounted for by such linkage, far more than has been accounted for in past studies or with other measures. Levenson & Gottman interpreted this as evidence that when distressed couples attempt to solve problems, they often feel "locked into" the interaction, are unable to "step back," and hence fall into a pattern of conflict reflected in their physiological reactions. Also, relative to happy marriages, unhappy marriages were characterized by less positive affect, more negative affect, and more reciprocity of negative affect (see also Margolin & Wampold 1981).

Three years later, Levenson & Gottman (1985) conducted a follow-up study with the same subjects. The more aroused a couple had been in the earlier study, the more marital satisfaction had declined since then. Thus, the earlier arousal may have indicated the couple's past affective experience, summarized over the history of the relationship. Interestingly, dissatisfaction at the time of the original study and declines in satisfaction as measured in the follow-up study were predicted by males' emotional withdrawal and females' emotional involvement, both in terms of negative emotion (presumably used to express dissatisfaction) and positive emotion (presumably used to draw the husband back into the relationship).

Related research by Gaelick et al (1985) adds more information about emotional interdependence in marital interaction. After conversations about marital problems had been videotaped, spouses were asked to describe their own intentions and reactions during those conversations, as well as their perceptions of their partner's intentions, reactions, and perceptions of themselves in return. Gaelick et al found that participants reciprocated the degree of love and hostility they perceived their partner to convey. Spouses also believed that their own expressions of emotion were reciprocated by their partners. However, perceptions were not always accurate, and only hostility, not love, was actually reciprocated. Sternberg & Barnes (1985) found related results in a study of actual and ideal love partners. Relationship success was more closely linked to perceptions of the other than to actual characteristics of the other.

Sex differences were also observed in Gaelick et al's (1985) study. Expressed hostility affected women's satisfaction more than men's. In addition,

women, but not men, perceived their partner's lack of hostility as an indication of love, whereas men, but not women, perceived their partner's lack of love as an indication of hostility. In other words, women exhibited a positive bias in interpreting ambiguous communication whereas men's bias was negative—a pattern also evident in a study of decoding errors in nonverbal communication by Noller (1980). Noller likewise found differences between satisfied and dissatisfied couples in emotional communication. Well-adjusted couples were better able to communicate emotion nonverbally than couples low in adjustment, largely because husbands from happy marriages sent clearer messages and made fewer decoding errors than husbands in unhappy marriages.

To summarize, emotion clearly plays an important role in natural interdependence. More research on the nature of emotional interdependence in different situations, different types of relationships, and at different stages of relationships is needed.

LAY UNDERSTANDING AND PROTOTYPES OF EMOTION A somewhat different approach with considerable potential for helping us understand the role of emotion in relationships deals with people's accounts of their own emotional experiences (e.g. Averill 1982, 1983; Scherer et al 1986; Schwartz & Shaver 1987). Researchers in this area come from a variety of theoretical backgrounds but share the assumption that to understand emotion fully we must understand the (often social) antecedents and consequences that comprise emotional experience. One example of such research comes from Averill (1982, 1983), a social constructivist, who asserts that emotions are complex "syndromes" of physiological, cognitive, and social responses, no single subset of which is necessary or sufficient to define the emotion in question. Emotion is seen as arising from social situations and as serving social functions. (For example, anger might be caused by another person blocking one's goals, and it might be expressed in order to stop that person from blocking one's goals in the future.) Averill has focused primarily on anger and has collected people's descriptions of their own experiences expressing emotion and being the target of another person's expressed emotions. Among the questions he has asked are "At whom do people become angry?" "What events cause anger?" and "What are the consequences of anger?" In the majority of cases, anger is expressed at well-known and well-liked targets rather than at disliked others or strangers. Anger generally arises in response to a perceived misdeed by another person and it is thought to be voluntary, intentional, and preventable. In addition, targets of anger reported that the consequences of the anger were sometimes positive (e.g. it made them realize their own faults or strengths) and often interpersonal in nature (e.g. anger can strengthen relationships).

Another example of this approach to understanding emotion, not derived from a social constructivist perspective, is provided by Shaver, Schwartz, and their colleagues (Schwartz & Shaver 1987; Shaver & Schwartz 1987; Shaver et al 1987). In their view, emotion is an organizational construct that links various components, such as concerns, appraisals, and action tendencies, in a functionally meaningful way. Using a paradigm and techniques originally developed by Rosch (e.g. Rosch 1978; see also Fehr & Russell 1984), these researchers identified "emotion prototypes," that is, people's implicit understanding of and beliefs about emotions. By cluster analyzing descriptions of actual emotional experiences, Shaver et al identified prototypical scripts—antecedents, responses, and self-control procedures—of anger, fear, sadness, joy, and love. Sadness, for example, begins with perception of loss, harm, or defeat, often in the realm of social relationships (e.g. social rejection or death of a loved one), and leads to responses such as withdrawal, reduced talking, and crying. Self-control procedures include attempts to alter or eradicate existing circumstances, such as, in the case of sadness, energetic activity, denial, or hopeful optimism.

Analyses of lay conceptions of emotion should prove valuable in increasing our knowledge of emotional processes in relationships. They provide many hypotheses about elicitation and expression of emotion in relationships, how people react to such emotion, when and how they try to control emotions, and how emotional expression influences the future course of a relationship. All of these issues are at the core of understanding the role of emotion in close relationships.

IMPLICATIONS OF EXISTING THEORIES FOR EMOTION IN RELATIONSHIPS

We turn finally to research that derives principles for thinking about emotional processes in relationships from theories of other social psychological phenomena. A good example is Self-Evaluation Maintenance theory (Tesser 1987). This theory holds that people are motivated to maintain positive self-evaluations; it proposes two processes through which self-evaluation may be influenced by others—"comparison" and "reflection." On tasks relevant to self-definitions, people compare their performance to that of their partners. When comparison favors the other, self-evaluation decreases. This decrease is greater to the extent that people feel close to the other. [Unlike Kelley et al (1983), Tesser defines closeness as the extent to which people see themselves belonging with the other.] On the other hand, when someone we feel close to performs well on tasks not relevant to our self-evaluation, we "bask in their reflected glory," and self-evaluation increases. The implications of the theory for emotion are clear. When self-evaluation improves, positive emotions should be experienced; when it deteriorates, negative emotions should predominate.

Research largely supports this derivation. Considering comparison processes first, Salovey & Rodin (1984) found that when subjects received feedback that similar others had outperformed them on a relevant dimension, feelings of jealousy, depression, and anxiety were highest, and liking and desire for friendship were lowest (similarity promotes perceptions of belonging with the other in Tesser's view). When the dimension was irrelevant to the self, or if the other was not similar, such effects dropped off. Nadler et al (1983) found that receiving help twice from a friend on a task of high self-relevance produced more negative affect than receiving help once on a relevant task from a friend, help on any kind of task from a stranger, or help on an irrelevant task from anyone. Finally, Tesser et al (1987) found, in one study, that being outperformed by close others on relevant tasks produced greater arousal than being outperformed on the same task by someone who is not close (arousal is interpreted as evidence of negative affect). In another study, in which subjects received feedback about their own and a partner's performance on a high-relevance task, Tesser et al (1987) observed a reduction in facial pleasantness expressed to a friend (relative to a stranger) when the other began to perform better than the self.

Existing studies also support the predicted influence of reflection processes on emotion. Moore & Tesser (1987) found that on self-irrelevant tasks, subjects felt better when outperformed by a friend than when their performance equaled that of a friend or when their partner was a stranger. In addition, Tesser et al (1987) found that being outperformed by close others on irrelevant tasks increased arousal relative to being outperformed by others who are not close on the same tasks (in this case arousal was interpreted as evidence of positive affect). In a second study, they found that low-relevance tasks produced increased facial pleasantness expressed to a friend (relative to a stranger) as the other began to perform better than the self.

Others, working outside the self-evaluation maintenance framework, have also applied social comparison theory to emotional processes in relationships. For example, Rosenhan et al (1981) demonstrated that one's own joy increased helping. However, thinking about another person's joy decreased helping. The reverse held true for sadness. When experienced for the self it decreased helping, but thinking about another person's sadness increased helping (Thompson et al 1980). Apparently, thinking about another person's feelings elicits social comparison. If the other feels worse than oneself, helping increases; if the other feels better, helping decreases.

The implications of equity theory for emotion in relationships have also been explored. Researchers have begun to examine the implications of global feelings of inequity for the experience of specific emotions such as depression (Schafer & Keith 1980) and guilt, hurt, resentment, sadness, and satisfaction

(Sprecher 1986). Like earlier researchers interested in global measures of distress (e.g. Walster et al 1978), these researchers found evidence that perceived inequity is related to the experience of negative emotions.

A final example is provided by Kelley's recent theory of interdependence (Kelley 1979; Kelley et al 1987). Kelley and his colleagues had subjects play matrix games varying in the degree and symmetry of interdependence between partners, commonality versus conflict of interest, and fate control or behavior control—in other words, games representing some of the basic patterns of interdependence identified earlier (Kelley & Thibaut 1978). After playing the games, subjects were asked questions about how likely the various types of interdependence were to generate emotion. Not surprisingly, high-conflict situations were seen as very likely to generate anger, whereas low-conflict situations were described as pleasant and as unlikely to evoke emotion. Low symmetry was seen as creating the possibility of anger in one person and guilt in the other.

Kelley (1984) has also discussed the importance of emotion in "intersituational transitions." According to Kelley, emotions summarize recent experiences in terms of both the specific outcomes obtained in interdependent situations and reactions to the partner's "transformation tendencies." Receiving rewards from interaction with another person, for example, may make one feel happy. Further, if the other is considerate—a transformation tendency in which the other gives importance to one's outcomes as well as the other's own—the experience of happiness and gratitude may be enhanced all the more. In addition, emotion orients people toward future interdependent situations by determining what situations they are likely to enter, what specific actions they will take, and what transformations they will make. For instance, happy people may be more willing to enter a situation in which their outcomes depend upon another person, may be more likely to behave cooperatively, and may be more likely to make prosocial transformations of their own. Kelley's work begins to tell us how various patterns of interdependence produce specific emotions, but further work is needed in which subjects' actual emotional reactions are assessed, rather than their perceptions of what emotions are likely to be elicited. More work on the impact of emotion on behavior in interdependent situations, choices of situations, and transformational tendencies would also be valuable.

The studies summarized in this section indicate considerable progress in understanding the role played by emotions in close relationships. We believe this progress will continue, and that such research will be increasingly tied to interdependence, as discussed above, and intimacy, the process to which we turn next.

INTIMACY

If nothing else, recent research on intimacy is notable for ushering in a broader conceptualization, one that is more nearly commensurate with lay usage, and with psychologists' implicit theoretical understanding of the construct. Using publication of Altman & Taylor's (1973) *Social Penetration* theory as a reference point, a decade and a half ago the casual reader of the literature would have concluded that intimacy referred to the willingness to disclose information about normatively private topics to another person or, alternatively, to interaction that was physically proximate or nonverbally engaging. [Recall Hall's (1966) use of the term *intimate zone* to describe interactions in which participants were placed 18 inches or less from each other.] Since then, the operational definition of intimacy has been expanded and refined, so that it encompasses a broader set of phenomena and processes and, more importantly, possesses greater construct and ecological validity. For present purposes, intimacy is defined as a process in which one person expresses important self-relevant feelings and information to another, and as a result of the other's response comes to feel known, validated (i.e. obtains confirmation of his or her world view and personal worth), and cared for. This definition is developed and extended by Reis & Shaver (1988).

Components of Intimacy

The fact that early definitions were too narrow is indicated in two studies that examined spontaneous accounts of what people mean by "intimacy" (Helgeson et al 1987; Waring et al 1980). In both, affection and emotional expressiveness were mentioned at least as prominently as disclosure. Other characteristics were also central: support, cohesiveness, and sexuality, for example. Lay accounts need not be definitive parameters for rigorous theorizing and research, of course, but in this instance they were closer than research was to many influential theoretical positions, such as those of Sullivan, Erikson, and Rogers.

Morton (1978), in one of the first self-disclosure studies taking emotion into account, distinguished between descriptive self-disclosure (revealing facts about oneself) and evaluative self-disclosure (revealing personal feelings about one's life). She found these factors to be conceptually and empirically distinct, and the combination of descriptive and evaluative intimacy to be more common among spouses than strangers. Another study (Berg & Archer 1982) further suggested that early evidence for the importance of descriptive intimacy might be traced to the fact that subjects typically were strangers instructed to seek and convey accurate impressions of each other. This setting seems likely to maximize the value of informational disclosure. Berg & Archer compared an explicit information-seeking condition with another

condition in which subjects were instructed to converse as they might in the "real world" and create a favorable impression. In the former condition, rates of evaluative and descriptive disclosure were about equal. In the latter, when confederates disclosed intimately, subjects responded by increasing their own levels of evaluative but not descriptive intimacy.

Other, more recent studies also suggest that emotional openness is a more important component of self-revelation than informational disclosure. Pennebaker & Beall (1986) found that disclosing feelings about traumatic events in one's life led to decreased health problems six months later. In contrast, subjects whose disclosure was limited to the facts of those events were no better off than control subjects who discussed trivial topics. Marital communication and satisfaction are also more strongly influenced by disclosure of feelings than by disclosure of information (Fitzpatrick 1987). The direction of this influence may be positive or negative, depending on the nature of the feelings revealed and the manner in which couples cope with them.

The notion that emotional self-expression might lie at the heart of the disclosure component of intimacy helps to integrate this literature with its traditional counterpart, nonverbal involvement. Heretofore, nonverbal engagement, such as through physical closeness, eye contact, and touch, has generally been shown to enhance perceived intimacy, but these factors have rarely been unified with verbal self-disclosure in a comprehensive theoretical model. Because nonverbal channels are prominent in emotional communication (Ekman et al 1972; Izard 1977; but see Brown 1987 for a somewhat different point of view), it seems reasonable to expect that emotional self-revelation includes nonverbal components. Patterson (1982, 1984) has suggested such an integration, proposing that nonverbal factors be thought of as "involvement" behaviors—forms of engagement that enhance or diminish partners' impact on each other. Involvement behaviors may serve many functions, two of which are pertinent here: expressing intimacy (feelings of openness and/or union with another person) and communicating personal information. Thus, one might examine how nonverbal behaviors influence these functions.

Although little research has explored the interface between nonverbal and verbal components of intimacy, there are notable exceptions (Montgomery 1981, 1984; Schwartz et al 1987). Montgomery examined several components of open communication simultaneously, including verbal content, nonverbal openness, emotional openness, and verbal immediacy (i.e. paralinguistic cues such as use of the active voice and "I" statements). In one study of self-revealing conversations (1981), communication style was shown to be an important and independent dimension of self-revelation, over and above content and topic of disclosure. In another study (1984), Montgomery demonstrated that sender and receiver judgments of openness were both

predicted better by communication style variables than by content variables. [See also Hornstein's (1985) study of the importance of paralinguistic cues in intimate communication.] Schwartz et al (1987) found that males tend to respond to conversations about highly intimate topics by withdrawing nonverbally, whereas females tend to approach.

Intimacy, then, involves both verbal and nonverbal communication of personally relevant information and emotions. Recent conceptualizations, however, as well as more traditional views, suggest that these processes may be necessary but not sufficient to foster intimate bonds. Chelune et al (1984), for example, propose that the next step involves metacognition, arising from appraisal of revealed information that evolves into shared, reciprocal understandings: coming "to know the innermost, subjective aspects of another, and [becoming] known in a like manner" (p. 14). Acitelli & Duck (1987) also discuss the importance of metacognitions in intimate relationships. Reis & Shaver (1988) go further. Drawing on the theories of Sullivan, Erikson, and Rogers, they posit that the fundamental characteristics of intimacy are the discloser's feelings of being understood, validated, and cared for. Derlega (1984; Derlega et al 1987b) also focuses on the role of self-validation in intimacy.

Although to date validation and caring have received less attention than self-disclosure in studies of intimacy, their relevance has nevertheless received support. For example, mutual validation has been shown to be more common in the problem-focused communication of happy than of distressed couples (Gottman 1979). With regard to caring, Sprecher (1987) demonstrated that liking for a dating partner was correlated with perceived disclosure by that partner, a finding that is consistent with Archer et al's (1980) laboratory study of self-disclosure by new acquaintances. Moreover, significant self-disclosure seems unlikely if listeners are perceived to be disinterested or uncaring (Reis & Shaver 1988). Berg & Archer (1980) found that recipients of high self-disclosure were liked better when they gave concerned responses (acknowledgment plus sympathy) than when they replied with reciprocally high self-disclosures of their own. Because these processes appear repeatedly in theories of intimacy (see Perlman & Fehr 1987, for a review, or Fisher & Stricker's 1982 collection of various perspectives), and especially because lay accounts focus on affection, validation, and support as much as they do on disclosure (Helgeson et al 1987; Waring et al 1980), the view of intimacy emerging from future research seems likely to continue expanding its conceptual breadth.

Examining Intimacy on Different Levels

Existing research has for the most part discussed intimacy as if it were a unitary phenomenon. Yet different researchers have examined different aspects of the phenomenon, so that at times the emergent picture depends very

much on the perspective adopted. It may not be coincidental, then, that three recent reviews likened intimacy to the proverbial elephant (Acitelli & Duck, 1987; Montgomery, 1984; Reis & Shaver 1988). At this point, a fully integrated picture seems premature. Nevertheless, in the interest of clarifying research results that often appear not to fit together, it may be useful to identify and discuss various perspectives that have received empirical attention in recent years. Three viewpoints will be discussed: processes involved in intimate interaction, the nature of intimate relationships, and individual differences in capacities and preferences for intimacy.

EXAMINING INTIMACY AS A PROCESS Nearly all early social-psychological research into self-disclosure and nonverbal engagement concerned intimacy processes—namely the mechanisms by which intimacy (within this more narrow definition) arises, develops, and influences subsequent interaction. As discussed earlier, it now seems more appropriate to view intimacy as a multicomponent process, including disclosure of personally relevant facts and feelings, affection and caring, and validation. But the legacy of early research is such that in the recent literature self-disclosure still receives the lion's share of attention.

Advances in our understanding of self-disclosure processes have been modest. As early as 1973, Altman & Taylor, and Rubin were able to summarize existing research with two general principles that, in more recent reviews, still endure as the most apt generalizations (e.g. Berscheid 1985): (a) disclosure becomes more intimate as partners become better acquainted, and vice versa (social penetration); and (b) disclosure levels tend to be mutual (reciprocity). Even so, useful additions and qualifications to our knowledge have appeared. For example, with regard to social penetration, research by Hays (1984, 1985) indicates that disclosure levels may reach asymptote as early as six weeks into the development of a new relationship. Also, Prager (1986) found that individuals who have not attained a close primary relationship disclose highly and equally to both strangers and close friends. Perhaps the failure to differentiate levels of self-disclosure as a function of closeness contributes to the inability to develop ongoing intimate relationships, since close friends usually prefer that their disclosure to each other is unique and personalized (Derlega & Grzelak 1979; Jones & Archer 1976). With regard to relationship termination, although it was originally assumed that dissolution would involve progressively decreasing levels of disclosure (Altman & Taylor 1973; Taylor & Altman 1987), recent studies suggest that this may not be so. Tolstedt & Stokes (1984), for example, demonstrated that as married couples became less close, the depth of their disclosure to each other increased, presumably because they were working through the failure of their relationship.

The fact that self-disclosure tends to be reciprocal has also been specified

more precisely in recent research. Miller & Kenny (1986), employing Social Relations Analysis (see Methodology section, below) separated dyadic effects (reciprocity unique to particular relationships) from individual effects (reciprocity due to the tendency of people who generally disclose equivalently, or who are generally disclosed to equivalently, to prefer interacting with each other). No evidence for individual effects was found, but strong dyadic effects appeared, suggesting that self-disclosure reciprocity is rooted in specific relationships. Moreover, high self-disclosure is not always reciprocated, such as when attributions for the cause of disclosure are unflattering or deindividuating (Derlega et al 1987a), when reactance is induced (Archer & Berg 1978), or when the recipient wants to avoid becoming involved with the speaker (Davis et al 1986). It is also clear that reciprocity is displayed less often in established close relationships than in new or developing relationships (e.g. Morton 1978; Won-Doornick 1979). This may be because reciprocity is observable only over longer time spans in ongoing relationships, or because exchange norms do not apply to communal relationships (Mills & Clark 1982).

An additional novel approach to the study of self-disclosure processes bears noting. Self-disclosure is frequently examined as a response to environmental or relational conditions. In contrast, Miell & Duck (1986) and Miller & Read (1987) independently proposed that disclosing behavior be viewed as an intentional strategy for accomplishing interpersonal goals and plans. Thus, disclosure levels not only reflect normative and relational conditions, they also represent deliberate strategies for steering intimacy levels in one or another direction. This approach seems promising, not only because it might identify the intentional substructure of self-disclosing communication, but also because it might resolve inconsistencies in the existing literature attributable to subtle, often unmentioned, differences in subjects' goal orientation.

EXAMINING INTIMATE RELATIONSHIPS Intimate relationships are those relationships typically or frequently characterized by the processes described above. Individual intimate episodes are of course not necessarily affected by the same factors that influence ongoing, intimate relationships (Duck & Sants 1983). Most studies of self-disclosure have been conducted in one-time laboratory encounters between strangers, leading Berscheid to conclude that "next to nothing is known of its role in ongoing relationships of some duration and little is known of its role in naturalistic, nonlaboratory contexts" (1985, pp. 469-470). This gap has not gone unnoticed by the field and, as a result, recent research suggests that Berscheid's precis may soon be outdated. Much of this research examines or extends principles derived in laboratory studies of initial encounters to ongoing relationships. For example, Fitzpatrick (1987) demonstrated that disclosure of feelings, more than of facts, affects marital

satisfaction, perhaps in part because prior personal knowledge moderates the impact of factual self-disclosure. Other studies in the marital arena address other components of the intimacy process, such as validation and affection (e.g. Gottman 1979; Noller 1984), generally demonstrating their importance for relationship satisfaction.

Outside of marriage, studies of ongoing relationships are fewer but still forthcoming. In a study of same-sex friendships, Hays (1984, 1985), as noted earlier, found that levels of intimacy, defined in terms of companionship, communication, affection, and consideration, reached maximum levels six weeks after partners became acquainted. Similarly, a short-term longitudinal study by Berg & McQuinn (1986) indicated that higher levels of self-disclosure early in a dating relationship predicted later continuity, and, in a prospective study, Cohen et al (1986) found that self-disclosure predicted changes in perception of tangible, appraisal, and belonging support as well as in the number of friends acquired during students' first year at college. As for the later stages of relationships, a recent review by Baxter (1987) concluded that intimate disclosure often increases as relationships dissolve, especially when such disclosure concerns facts and feelings about the relationship itself. In sum, although it is apparent that process-oriented research involving sustained relationships is in a nascent state, theoretically useful findings have begun to appear.

A key distinction to be emphasized concerns the difference between intimacy processes and behaviors occurring in intimate relationships. Many of the studies described in the preceding section examined the operation of intimacy processes in intimate relationships. The existence of an intimate relationship, however, indicates only that a particular kind of connection exists; it does not necessarily implicate intimacy processes per se in every behavior that occurs, because many other activities and processes are also present within intimate relationships. For example, many studies examine attribution processes in marriage, sometimes ascribing attributional differences between married persons and strangers to the impact of intimacy. It is possible, however, that the findings are due to other processes operating in close relationships, such as denial of responsibility, deception, or division of labor. Such studies are generally not informative about the nature of intimacy as a process; rather, the existing intimate relationship is simply one contextual factor underlying the phenomenon of interest.²

This issue sometimes arises in research deriving from Erikson's (1950,

²To some extent, this difficulty arises because "intimate" is frequently used as a synonym for "close," or worse, for the existence of a marriage. Although such usage is consistent with everyday definitions, it does not lend itself to conceptual or operational rigor. We suggest that the term "intimate relationship" should be reserved for relationships that fulfill the psychological conditions of intimacy processes.

1968) conceptualization of intimacy. Consistent with his focus, researchers developed questionnaires assessing intimacy status—the presence or absence of an intimate relationship (e.g. Orlofsky 1987; Ochse & Plug 1986). Intimacy status is then related to a variety of demographic, individual-difference, and outcome measures (e.g. personality development, mental health). Although this subdiscipline is developing useful core concepts of its own, the fact of an intimate relationship and the impact of its existence might be attributable to environmental circumstances, preferences, goals, and demographic factors, in addition to the personality and relational processes described in Erikson's theory. Consequently, the relevance of these findings to process-oriented studies and theories remains unclear. *Rapprochement* is desirable.³

EXAMINING INDIVIDUAL DIFFERENCES The third level of analysis, which only in the past decade has become the object of systematic empirical attention, concerns individual differences in preferences and capacities for intimacy. Research on this topic is needed for two reasons: First, and obviously, it elucidates the influence of personality variables on intimacy processes; and, second, it allows researchers to observe the impact and operation of these processes among persons who possess and display those characteristics most strongly (Snyder & Ickes 1985). Thus, studies of individual dispositions toward intimacy are an increasingly valuable source of knowledge about intimacy processes *per se*.

Although early studies examined dispositional variables related to it, intimacy was never discriminated from other traits in the affiliation/nurturance cluster. For example, elements of intimacy can be found in Murray's (1938) needs for affiliation, nurturance, rejection, and succorance. Recently, primarily through the work of McAdams and his colleagues, a differentiated concept of intimacy motivation has been articulated and operationalized. According to McAdams, "the intimacy motive is a recurrent preference or readiness for experiences of close, warm, and communicative exchange with others" (1984, p. 45). McAdams's studies are based on a projective measure of intimacy motivation—content analyses of Thematic Apperception Test (TAT) responses—and constitute a sophisticated program of research on the effects of intimacy motivation on social interaction and personal well-being. For example, relative to low scorers, persons high in intimacy motivation express greater trust in and concern for friends; self-disclose more emotional,

³Erikson's theorizing was also very different from that of earlier studies that focused on self-disclosure and nonverbal communication, but this may have been a limitation of those studies. The reconceptualization of intimacy to include notions of validation and affection, as discussed earlier, relies with increasing emphasis on points made by Erikson.

personal, and relational content (McAdams et al 1984a); and have more frequent and more affectively positive interpersonal thoughts in daily interaction (McAdams & Constantian 1983). They also are perceived as more likable and noncompetitive by peers (McAdams & Powers 1981); smile, laugh, and engage eye contact more often in an interview (McAdams et al 1984b); and, in a longitudinal study, report greater marital enjoyment and better personal adjustment 17 years after intimacy motivation was assessed (McAdams & Vaillant 1982). It is noteworthy that these effects are demonstrably independent of the need for affiliation, a broader social motive with a more instrumental flavor (McAdams & Constantian 1983; McAdams & Powers 1981).

Research employing this and related measures has for the most part been limited to studies of dispositional and contextual factors that affect intimate behavior. Yet because individuals differ in their desire for, and appreciation of, intimacy, it seems apparent that full understanding of the nature of intimacy in everyday life requires a person \times situation approach (Snyder & Smith 1986). One need only scan the literature to realize the potential impact a moderator-variable approach might have on the formulation of interesting hypotheses. Do persons high in intimacy motivation respond differently to circumstantial disruptions of their social network than those low in intimacy motivation? Does the impact of emotionally charged self-revelation depend on the listener's preferred level of intimacy? Does the effect of intimate self-disclosure on marital conflict depend on partners' predispositions for intimacy?

Individual-difference variables have also been related to Erikson's (1950, 1968) concept of intimacy status. Such studies examine personality factors that distinguish persons who have achieved an intimate relationship from those who have not. The extent to which these findings speak directly to intimacy processes is not clear, because, as noted earlier, the presence or absence of an intimate relationship may be attributable to many causes, some relevant to the theory and others not. Nevertheless, a useful view of personality factors influencing the capacity for intimacy is beginning to emerge. Bellew-Smith & Korn (1986) and Tesch & Whitbourne (1982) empirically confirmed Erikson's proposition that a resolved, stable identity is prerequisite to establishing intimate relationships. In a study of college women, Levitz-Jones & Orlofsky (1985) found relatively more severe attachment and separation-individuation problems and heightened defensiveness among subjects experiencing problems in attaining truly intimate relationships. Developmental studies suggest that disturbances in infant-caregiver attachment relations ought to predict intimacy problems in later life (Hazan & Shaver 1987; Main et al 1985; Ricks 1985), presumably because early relationships establish prototypic motives, needs, goals, and fears that tend to persist

(Bowlby 1969; see Reis & Shaver 1988). The longest longitudinal studies available to date (e.g. Sroufe 1987) indicate that early attachment difficulties adversely affect middle-childhood peer relations in a manner that may foretell intimacy problems in adulthood (cf Buhrmester & Furman 1986; Kohlberg et al 1984).

Sex Differences

If any subarea of intimacy research has yielded inconsistent, difficult to reconcile findings, it is the area of sex differences. The general thrust of these findings is that females are likely to express greater interpersonal intimacy than males do. Some studies indicate either no difference or greater intimacy among males, however (see Cozby 1973 or Hill & Stull 1986 for reviews). Because of these contradictions, research has turned in the direction of identifying potential moderator variables, and recent studies suggest principles that may prove helpful in reconciling past results. First, sex differences indicating greater intimacy among females than males appear stronger in same-sex interaction than in opposite-sex interaction (Caldwell & Peplau 1982; Reis 1986), perhaps because societal norms inhibit intimacy in all-male dyads more than in other sex pairings. Second, although intimacy typically serves expressive purposes, males may increase intimacy more than females do in situations that allow intimacy to serve goal-oriented, instrumental functions. For example, Derlega et al (1985) found that males paired with newly met female partners disclosed more intimately than males with male partners or females with partners of either sex, presumably because they were trying to create favorable impressions. Third, studies that examine intimacy motivation or interest in intimate friendship tend to show few sex differences, whereas laboratory observations and self-reports of existing and past interactions tend to reveal greater intimacy among females. This may indicate greater behavioral inhibition by males than by females with equivalent preferences for intimate interaction (Reis et al 1985). Other moderator variables have also been proposed, such as sex-role identity (Hill & Stull 1986; Wheeler et al 1983), questionnaire differences (Hill & Stull 1986), and conversation topics (Rubin et al 1980). It seems clear that a moderator-variable approach, incorporating notions discussed elsewhere in this review, is needed to resolve these inconsistencies.

Is Intimacy All Good?

Most, if not all, empirical studies and theoretical analyses of intimacy are grounded in the assumption that intimacy has many positive effects on human well-being, and indeed, much existing research supports this assumption. For example, recent studies have linked greater intimacy to the absence of loneliness (Wheeler et al 1983), the perception of social support (Hobfoll et al

1986), better psychosocial adjustment (McAdams & Vaillant 1982), fewer symptoms of illness (Pennebaker & Beall 1986; Reis et al 1985), and higher levels of ego development (Loevinger 1976). Nevertheless, intimacy may also have negative consequences. Rook's (1984, 1988) studies of social support, for example, demonstrate that psychological well-being may be affected adversely by problems and conflicts stemming from intimate interaction. Fitzpatrick's (1987) research suggests that intimate self-disclosure and open communication may be harmful for married couples who define their relationships in an emotionally distanced manner [which is, incidentally, a more common definition of marriage in earlier eras (Gadlin 1977) and in other cultures (Dion & Dion 1988)]. Disclosure and discussion of fearful feelings can also, at least in the short run, aggravate anxiety and interfere with coping (Costanza et al 1987).

Intimacy might also produce comparison problems, given that intimate partners are likely to see themselves as close and similar. Tesser's creative studies of self-esteem maintenance (summarized in Tesser 1987) indicate that when two individuals are close, superior performance by one on self-relevant tasks may threaten the other's self-esteem and lead to negative emotions (see Emotion section, above). Such threat can be managed in various ways, but all seem detrimental: distancing from the partner, self-depreciation, and loss of interest in the task, for example. Finally, harmful effects that arise in the context of intimate relationships are discussed often in the clinical literature. These effects include negative feelings and growth-inhibiting states such as enmeshment, exploitation, vulnerability, loss of individuality, and fear of abandonment (Fisher & Stricker 1982; Hatfield 1984). To us, the fact that both positive and negative consequences of intimacy have been observed points to the need to distinguish intimacy as a process from other phenomena that occur in the context of intimate relationships. It does not seem appropriate to describe the consequences of fighting or emotional withholding in a marriage, for example, as a negative effect of intimacy, because it is precisely the failure to adequately provide components of the intimacy process per se that is problematic. Fuller understanding of the manner in which intimacy may be detrimental therefore requires distinguishing relationship context from processes that are causally responsible for observed effects. Further research along the lines suggested above, and in the concluding section of this review, may be useful in supplying such information and in helping to integrate our understanding of positive and negative consequences of intimacy.

LOVE

We have focused on three processes in this review: interdependence, emotion, and intimacy. These processes were selected in the belief that they apply to

most types of close, personal relationships, and that our understanding of particular relationships will be enhanced by considering the operation of these processes within them. This logic seems especially pertinent to the study of love. Love was a fertile topic for social psychological research during the mid-1970s, but then, both because political pressure deemed love "unscientific" and because empirical studies had to that point failed to capture the essence of romantic love (Berscheid 1988; Rubin 1988), research activity abated. Love has reemerged in conceptually broader form as a productive area of inquiry in the mid-1980s. Much new theory and research examines interpersonal processes that affect the experience of love in human relationships, and we focus on this material. Because the resurgence of love research is still new, theoretical statements have outpaced empirical findings, and many of the most interesting propositions remain to be tested. Nevertheless, in reviewing this material, it became apparent to us that intimacy, emotion, and outcome interdependence were critical to most theories of love. Consequently, our understanding of love may be enhanced by considering the operation of these three processes in the context of existing love research and theory.

Before turning to process-oriented accounts of love, it may be helpful to discuss descriptive studies that seek to establish the nature of love.

Descriptions of Love: Prototypes and Varieties

Two conceptual frameworks dominated the first wave of love research. First, Rubin's (1973) model conceived of love as an attitude comprised of three components: attachment (needing), caring, and intimacy (willingness to self-disclose). Berscheid & Walster (1974, 1978), in a second approach, proposed two distinct types of love, companionate and passionate. Companionate love referred to affection felt for others with whom we are deeply intertwined. Passionate love dealt with intense feelings of absorption in another person, and arose from heightened physiological arousal labeled as love (in the manner of Schachter's two-factor theory of emotion). Although both approaches bore reasonable empirical fruit, they were ultimately dissatisfying in their failure to describe the many varieties and richness of human loving experiences (McClelland 1986) and in their inability to account for many causal antecedents and consequences of love.

The need for a broader view was noted by Kelley (1983a), who argued that a full theoretical account of love must include four kinds of information: identification of observable phenomena, notions about current causes of these phenomena, their historical antecedents, and their future consequences. A number of descriptive studies have focused on the first aspect of Kelley's mandate. Shaver et al (1987), for example, sought to identify prototypic conceptions of love. Relying on cluster analyses of emotion words and of

written accounts of love experiences, they found that love was characterized primarily in companionate terms (e.g. adoration, affection, fondness), although a more passion-oriented secondary cluster (e.g. desire, lust) also emerged. The most prototypical antecedents were also companionate in nature—believing the loved other provides something the person needs or wants, realizing that one is appreciated by the other, communicating openly, and finding the other attractive. Responses to love included expression of positive feelings; physical affection; being obsessed with thoughts about the other; and feeling self-confident, happy, and secure about the relationship.

Other descriptively oriented studies have also examined prototypic accounts of love, with similar results. Davis & Todd (1982) suggested that a cluster of affectionate-companionate traits characterizes love in general (e.g. in relationships with siblings, children, close friends, etc) and that passionate arousal is added to this core to differentiate the special case of romantic relationships. Fehr (1987) had subjects rate how central each of 68 attributes (generated from spontaneous descriptions of love) was to the concept of love. Trust, caring, honesty, and friendship were seen as most central, whereas passion and attraction were more peripheral. Fehr & Perlman (1987) extended the prototype logic by demonstrating that central traits covaried more closely with perceptions of the degree of love than peripheral traits did. Thus, affectionate qualities seem more characteristic of lay conceptions of love, generically defined, than passionate qualities do. Still, Fehr & Perlman's data indicate that passionate arousal—lust, to use Berscheid's (1988) term—is an important secondary feature of romantic love in particular. The dynamic properties of passionate love have received little research attention, however, and are not well understood (Berscheid 1988).

An alternate tack to describing the phenomenon of love is taken by researchers who identify and define different types of love. Such studies begin with the assumption that there are demonstrably different and conceptually distinct styles of loving, as reflected both in individual tendencies to repeatedly prefer one or more of these love styles, and in systematic variations from one kind of relationship to another. Perhaps the best known of these efforts is Lee's (1973, 1988) "colors of love" typology, which was recently converted into a self-report questionnaire by Hendrick & Hendrick (1986). Lee's typology posits three primary classes of love—Eros (passionate love), Ludus (game-playing love), and Storge (companionate love)—and three secondary classes, blending all possible pairs of the primary types: Mania (possessive, dependent love), Pragma (logical, practical love), and Agape (selfless love). By and large, Lee's typology is confined to simple description and includes little theorizing about the dynamic properties of different types of love. As a result, research using his framework has been limited to documenting attitudinal, personality, and gender-related correlates of the various types. For example,

women have been shown to be more manic, storgic, and pragmatic, and less ludic and erotic than men (Hendrick et al 1984). Also, erotic and agapic lovers tend to self-disclose more to their lovers and see sex as a communal act, whereas ludic lovers have more permissive sexual attitudes, see sex as an egocentric, hedonic act, and disclose less (Hendrick & Hendrick 1987).

Other researchers offer different taxonomies. Kelley (1983a), for example, suggests three primary types of love: passionate, pragmatic, and altruistic. Berscheid (1983, 1988) proposes four varieties: eros, friendship, attachment-affection, and altruistic love. Hazan & Shaver (1987), drawing on attachment theory, advance three categories: securely attached, anxious/ambivalent, and avoidant. Sternberg's (1986) triangular theory of love uses the presence or absence of each of three factors—intimacy, passion, and commitment—to yield eight possible combinations: nonlove, romantic love, liking, fatuous love, infatuation, companionship, empty love, and consummate love. No doubt other and more differentiated classification schemes can and will be conceived. If they are to have theoretical value, they must go beyond simple description of face-valid types to suggest new understandings of the causal dynamics of love. That is, the primary gain to be realized from taxonomies of love is in pointing the way to differences in causal antecedents, moderators, mediating processes, and consequences among the sundry varieties of love (Berscheid 1988; Kelley 1983a). When used in this manner, taxonomies have the potential to enhance our knowledge about processes involved in the phenomenon of love. We now turn to research that has examined such processes.

Interpersonal Processes in the Experience of Love

In our opinion, the most exciting developments in the resurgence of love research concern its constituent processes. Different researchers have, of course, advocated different theoretical positions. Nevertheless, our sense is that they all involve, in one form or another, the three interpersonal processes reviewed earlier in this chapter. Thus, love research demonstrates how relationship researchers repeatedly rely on aspects of these three core processes.

One promising model that has received a great deal of popular attention is offered by Sternberg (1986). He proposes that love has three component processes: intimacy, passion, and commitment. Intimacy refers to feelings that promote closeness, such as affection, positive regard, self-disclosure, and supportiveness. Sternberg hypothesizes that the intimacy component is largely emotional, so that it follows Berscheid's (1983) account of emotional processes (discussed above). The passion component deals with arousal, some of it sexual and some of it stemming from other sources of motivation such as needs and traits. This factor, evident in intense feelings of attraction to

another person, is presumed to operate in the manner of opponent-processes (Solomon 1980). That is, quickly developing positive drives are balanced by more slowly developing (and more slowly fading) negative drives. The final component of Sternberg's model consists of two elements, short-term decisions that one loves another person, and long-term commitment to maintain that love. Decision/commitment is primarily a function of relationship duration and success, although research suggests that other factors are also relevant [e.g. availability of alternative partners (Simpson 1987)].

Sternberg's model is primarily a structural model of love. Focusing on the intimacy component, Sternberg & Grajek (1984) compared three plausible alternative models of love: a "Spearmanian" model, which conceptualizes love as a single undifferentiated entity; a "Thomsonian" model, which regards love as a unified composite that can be decomposed into several closely related but distinct components; and a "Thurstonian" model, which views love as a set of independent factors, each of which contributes to the overall experience of love. Based on cluster and factor analyses of various love scales, their data supported the Thomsonian model most closely. Moreover, the structure of intimacy in love that emerged did not vary appreciably from one type of loving relationship to another. Sternberg & Grajek suggest that the nature and role of intimacy may be relatively stable in different relationships, but that passion and commitment are more likely to fluctuate depending on relationship type.

Sternberg also uses the visual heuristic of depicting love as a triangle, in which each vertex represents one of the three primary components. Thus, as with a triangle, the form of the whole depends upon how the three parts connect. Some support for this proposition was provided by Sternberg (1987). The three components varied systematically across different relationships (e.g. mother-child, lovers, siblings) in rated characteristicness and importance, and in their correlations with one another. Sternberg & Wright (1987) demonstrated that the intimacy and commitment components were seen as somewhat more important to various love relationships than passion was.

We see value in Sternberg's theory for at least two reasons. First, in describing both structures and processes involved in love, it is more comprehensive than most existing models. Second, it proposes specific process mechanisms for each component, thereby affording fuller possibilities for developing hypotheses about antecedents and consequences. As yet, however, the validity of these processes for understanding love has not been established empirically, and the fit of these processes to each component is not clear. For example, Sternberg (1986) used Berscheid's theory of emotion to explain intimacy but not passion, yet Berscheid herself used this selfsame theory to account for passionate love (1983, 1988). Further, although couch-

ing intimacy as an emotional process is consistent with the role of emotional self-disclosure noted in our review of intimacy research, several aspects of this factor seem likely to appear in the absence of emotional experience (e.g. mutual understanding and regard, dependability). It will therefore be necessary in coming years to provide tests of the process components of Sternberg's model.

Processes of emotion, intimacy, and outcome interdependence are also prominent in another important new theory of love advanced by Hazan & Shaver (1987; Shaver & Hazan 1987; Shaver et al 1988). In their view, derived from Bowlby's (1969) theory, romantic love is best conceptualized as an attachment process. They describe love in two ways: as a momentary emotional state and as a readiness to experience that state with regard to another person. When used in the latter, more dispositional meaning, romantic love between adults bears striking similarities to the affectional bonds that promote attachment between infants and their caregivers. That is, love refers to an enduring affectional bond that involves strong and diverse feelings, as well as the behaviors and behavioral tendencies associated with those feelings. Satisfying bonds evoke a sense of security, contentment, and joy, whereas the absence of such bonds or threats to their continuity produce negative emotions—e.g. anxiety, anger, depression—and behavior designed to restore them or cope with their absence. Continuities between childhood attachment and adult romantic love are further emphasized by the developmental nature of Hazan & Shaver's model. Using Bowlby's term, they propose that "inner working models" (i.e. prototypes that include expectations, beliefs, and defenses about relatedness) are established in the infant-caregiver bond, which later influence desires for and evaluations of adult relationships.

In a pair of studies designed to test these propositions, Hazan & Shaver (1987) derived predictions about adult love relationships from childhood attachment research and then examined adult self-reports of love experiences and beliefs about love for evidence of these effects. Results supported their predictions and the relevance of attachment theory. For example, in secure infant-caregiver relationships, the caregiver provides a "secure base," allowing infants to feel more confident and safe exploring the environment, and happier in general. Similar feelings were promoted by secure adult love relationships. In contrast, adults whose love relationships tended to be insecure showed problems paralleling the behavior of infants with problematic attachment. That is, persons whose love relationships were characteristically avoidant found closeness uncomfortable and believed that "true love" rarely lasts. Anxious-ambivalent lovers reported falling in love quickly and easily, but felt that their desire for merger and union with their lover was rarely reciprocated.

Three aspects of Hazan & Shaver's approach seem especially noteworthy. First, they take a developmental perspective, highlighting similarities and continuities in people's orientation to close relationships across the life span (although, to be sure, they acknowledge that romantic love differs from childhood attachment in several important ways, such as in terms of sexuality and reciprocity). Their model locates the origins of adult love preferences and behaviors in early developmental experiences and proposes mediating processes—cognitive-emotional structures called inner working models—that both account for stability of early relational patterns into adulthood and, at the same time, allow possibilities for later modification and change. Second, partly because it is a broad process-oriented theory, a wide array of relatedness phenomena are housed under a single conceptual roof. In their research and theorizing, such phenomena as love, lovesickness, grief and reactions to loss, loneliness, caregiving and nurturance, and personal well-being are considered and integrated. Third, the same general concepts are used to explain insecure and secure relationships, adding parsimony and wholeness to the question of love "types." Earlier accounts of extreme forms of love, particularly of the anxious/ambivalent type, tended to describe them in isolation, with minimal consideration of more generally applicable processes or of the relationship between secure and insecure forms of love (e.g. Hindy & Schwarz 1984; Peele 1975, 1988; Tennov 1979). As with Sternberg's model, further research is needed to extend empirical support for their approach beyond existing preliminary evidence.

Hazan & Shaver's approach is also socioevolutionary. They assert: "Romantic love is a biological process designed by evolution to facilitate attachment between adult sexual partners who, at the time love evolved, were likely to become parents of an infant who would need their reliable care" (1987, p. 523). The notion that romantic love might have evolved because of its reproductive advantages has recently been proposed by Buss (1988a), Kenrick & Trost (1986), and Mellen (1981), among others. According to this position, because feelings and actions associated with romantic love lead adults to attract and retain mates, reproduce with them, and invest in their offspring's survival, reproductive success is likely to be enhanced among persons experiencing, and acting upon, romantic love. Activities designed to attain proximate goals related to romantic love, such as resource display and sharing, desires for commitment and exclusivity, sexual and emotional intimacy, and parental investment, are therefore likely to help fulfill the distal goal of reproductive success (Buss 1988a).

Although socioevolutionary accounts of such processes typically do not lead to testable propositions in humans, two recent papers by Buss and his colleagues offer an exception. First, in two studies of mate preferences, Buss & Barnes (1986) found that cues suggestive of investment in the marital bond

and in the survival of offspring were more highly ranked than other potential bases for mate choices. Sex differences corresponding to socioevolutionary predictions emerged as well. Males preferred more attractive women (presumably because attractiveness cues such as youth, health, and weight signal reproductive fitness), whereas females preferred males with more education and earnings potential. Second, Buss (1988b) examined tactics used by males and females to attract members of the opposite sex. Males more frequently relied on resource displays (e.g. bragging about accomplishments, demonstrating strength), whereas females were more likely to focus on appearance (e.g. using cosmetics, dieting, dressing provocatively). Of course, because such propositions also might be generated by other theoretical frameworks, the predictive uniqueness of socioevolutionary concepts remains to be demonstrated. Nevertheless, recent accounts, such as those of Buss (1988a) and Hazan & Shaver (1987), are promising because they integrate evolutionary considerations with more proximate interpersonal processes.

A few additional studies have examined other aspects of emotion processes involved in love. White et al (1981) provided the clearest evidence to date that physiological arousal, regardless of its source, can be misattributed to romantic love in the manner derived by Berscheid & Walster (1974, 1978) from Schachter's two-factor theory of emotion. In two experiments, they demonstrated that arousal produced by exercise or listening to humorous or distressing audiotapes increased males' romantic attraction to an attractive female but not to an unattractive female. Relatedly, Seligman et al (1980) showed that attending to extrinsic reasons for a relationship led partners to report less love for each other. In a very different vein, Harvey et al (1986) examined descriptions of past love relationships that had been terminated for at least six months. The most vivid memories focused on affect and emotional arousal experienced in the relationship, in its break-up, or in subsequent encounters. Moreover, the more depressed respondents currently were, the more vivid and "flashbulb-like" their accounts were, suggesting that emotional by-products of the lost love relationship were still evident.

Intimacy processes have also been investigated in recent studies of love. Steck et al (1982), for example, compared the relative salience of care, need, and trust in subjects' conceptions of love, attraction, and friendship for romantic partners. They found that caring was most prototypic of love, needing was more representative of attraction, and trust was more characteristic of friendship. McAdams (1980) reported comparable findings in a study of TAT protocols provided by in-love and not-in-love matched controls. In their descriptions of the depicted relationships, in-love persons featured greater positive affect, union, and harmony, and were more likely to describe relationships as happy refuges from outside stress. Because companionate love is in many ways comparable to intimacy (Hatfield 1988), and because the most

consistent and central prototypic features of love involve intimacy (as discussed earlier), the need for additional research investigating the operation of intimacy processes within the domain of love is clear.

Finally, although research on interdependence in love relationships has been rarer, a number of useful points have been advanced. Kelley (1983b), for example, proposed that one infers a partner's love from beneficial acts one believes are motivated by the partner's dispositional caring for oneself. Some support for this notion was provided by Rempel et al (1985). They correlated three aspects of trust with love, as measured by Rubin's (1973) scale: predictability (expectations based on the other's past behavior), dependability (dispositional inferences based on the other's past behavior), and faith (dispositional inferences that go beyond available evidence). Love was uncorrelated with predictability, moderately correlated with dependability, and strongly correlated with faith.

A number of studies (reviewed in the section on Interdependence, above) apply equity and other exchange norms to dating relationships and marriage. In a recent review of some of these studies, Hatfield et al (1985) concluded that love relationships in which global impressions of equity are high are more stable and satisfying. There is also evidence (reviewed above in the Interdependence section) that commitment to and satisfaction in adult romantic relationships increase as outcome levels increase and as availability of alternative partners decreases (see especially Rusbult 1980a, 1983; Rusbult et al 1986; Simpson 1987). Nevertheless, we do not know much about how outcome interdependence affects the experience of love, either globally or, as seems more likely, differentiated into its various types. For example, need-based norms might predominate in companionate and securely attached relationships, but equity norms might prevail in avoidant or ludic relationships. As the field begins to examine love in dyadic terms, interdependence processes are likely to grow in importance.

In conclusion, researchers are increasingly aware of the importance of studying interpersonal processes involved in love. The processes described earlier may prove fruitful in enhancing our understanding of this complex and stirring phenomenon.

INDIVIDUAL DIFFERENCES IN RELATIONSHIP PROCESSES

The study of individual differences has great potential for contributing to our knowledge about relationship processes. Although this potential is, as yet, largely unrealized, some recent programs of research have provided important new findings and, as such, illustrate the promise of systematic studies of dispositional differences. First, to show how systematic study of individual

differences can help us understand interpersonal processes in close relationships, we review recent studies of self-monitoring in social relations conducted by Snyder and his colleagues. Second, because relationships depend not on the character of one person but on the interaction of two predispositions, we discuss research by Ickes that examines pairings of people with specifiable individual differences. Third, we briefly and selectively review new personality measures of particular relevance to relationship researchers. We highlight these measures because they have already yielded interesting results and, if used in comprehensive programs of research on relationships, seem likely to bear greater intellectual fruit.

Systematically Relating Personality Variables to Relationships: The Case of Self-Monitoring

According to Snyder (1974, 1987), high self-monitors strive to be the kind of person called for by social and interpersonal cues. In contrast, low self-monitors typically try to display their own dispositions and attitudes no matter what the situation. Thus, the behavior of high self-monitors varies from situation to situation and does not necessarily correspond to underlying attitudes, whereas attitude-behavior correspondence is closer among low self-monitors.

What are the implications of this distinction for relationships? Considering friendship first, Snyder et al (1983) examined how people choose activity partners from their own social networks. High self-monitors tended to select partners skilled at the activity in question regardless of how well liked those partners were (presumably because they wanted a partner who would facilitate performance). In contrast, low self-monitors tended to select well-liked partners regardless of their abilities in particular activities (presumably because they could "be themselves" with such others). Such choices leave high self-monitors with highly compartmentalized social networks and low self-monitors with simpler, more integrated networks.

Later studies expanded on these initial findings. For example, content analyses of friendship descriptions revealed that high self-monitors focus primarily on shared activities whereas low self-monitors stress mutual nurturance and compatibility (Snyder & Smith 1986). Moreover, friendship is generally preferred with others of similar self-monitoring levels (Snyder & Smith 1986), perhaps because similarity facilitates goal attainment and smooth interaction. Two high self-monitors, for example, would not feel obliged to interact with each other or provide mutual nurturance beyond situational dictates. Other researchers have also investigated this process. Shaffer et al (1987) found that when future interaction was anticipated, only high self-monitors reciprocated a partner's level of disclosure (a partner's disclosure is a situational cue); lows did not, relying more on their own

thoughts and feelings to determine self-disclosure levels. Interestingly, when no future interaction was expected (and therefore no relationship was possible) both high and low self-monitors reciprocated their partner's disclosure.

These findings suggest that high self-monitors might form close, enduring romantic relationships less frequently than low self-monitors, and, indeed, Snyder & Simpson (1984) report evidence to this effect. Compared to low self-monitors, high self-monitors report greater willingness to change partners, more dating partners in the last year, less time in their current relationship, and less of a link between relationship length and intimacy. Additionally, in contrast to low self-monitors, high self-monitors pay relatively more attention to a potential date's physical attractiveness than to enduring personality characteristics, both when initially acquiring information and when actually choosing dating partners (Snyder et al 1985). Glick (1985) found that in choosing a romantic setting for a first date, high self-monitors were particularly influenced by the other's physical appearance, whereas low self-monitors were influenced more by the other's personality. These studies indicate that the choice of interaction partners is broadly influenced by self-monitoring tendencies.

Interestingly, Snyder's research suggests a note of caution to relationship researchers with regard to collecting and interpreting measures based on self-reports of numbers of friends, romantic partners, or significant others [e.g. social network measures, such as that used by Stokes (1983)]. That is, just who qualifies for description as a friend or partner depends on the meaning attributed to those categories of relationships, and people differ systematically in the criteria they use in these judgments.

Examining Interaction Between People with Specified Dispositions

Research by Ickes and his colleagues demonstrates that interaction patterns are often affected by the unique pairing of two individuals, each with specific dispositions. In a representative study, using the Unstructured Interaction Paradigm (see the Methodology section, below) Ickes and his colleagues observed pairs of opposite-sex (Ickes & Barnes 1978) or same-sex (Ickes et al 1979) subjects in spontaneous interaction. All subjects had been pretested with the Bem Sex Role Inventory and fit into the masculine, feminine, or androgynous category. Opposite-sex dyads revealed less attraction and behavioral involvement (e.g. less verbalization and fewer directed gazes and expressive gestures) when masculine males were paired with feminine females than when either or both members was androgynous. In same-sex dyads, behavioral involvement was greatest when androgynous subjects were paired, and less when the dyad involved at least one sex-typed person. Apparently, interaction between two sex-typed individuals is likely to be

inflexible, distant, and stalemated. In contrast, when both partners were androgynous, each was sufficiently flexible to permit adaptation to the other, facilitating successful interaction. When one member of a dyad was androgynous and the other sex-typed, only opposite-sex pairs had enjoyable interactions; same-sex pairs were stalemated. Ickes accounts for this difference by suggesting that androgynous persons follow the other's lead in same-sex interaction, so that only expressive or instrumental behavior is represented, producing stalemates. On the other hand, in opposite-sex pairs following the other's lead allows androgynous persons the flexibility to adopt behaviors appropriate to their own sex or that of the opposite sex.

Ickes's approach might profitably be applied to other personality and individual-difference variables. How, for example, might pairs of people varying in self-esteem interact? Will people with the same general orientation to relationships interact more successfully than those with mixed orientations? Would shy persons come out of their shell when paired with a socially skilled other? Like Kenny's studies with the Social Relations Model (see the Methodology section, below), Ickes's work nicely illustrates how certain important phenomena emerge only in dyadic contexts. Ickes's approach should not be limited to studies of strangers, however (as he acknowledges; Ickes 1985). We also need to know how particular pairings of dispositional traits influence various relational processes during the development, maintenance, and dissolution stages of ongoing relationships.

New Individual-Difference Measures

Many new individual-difference measures seem particularly relevant to the study of relationship processes. These include: loneliness (Rubenstein & Shaver 1980; Russell et al 1980); shyness (i.e. acute awareness of oneself as a social object, low self-esteem, and tense and awkward feelings with others) and sociability (i.e. preferences for affiliating with others as opposed to being alone) (Cheek & Buss 1981); an "Opener's" scale designed to assess tendencies to elicit self-disclosure from others (Miller et al 1983); intimacy motivation (McAdams 1984); social reticence (Jones & Russell 1982); social anxiety (Leary 1983); and trust and fear of rejection (Reis et al 1982).

Other new measures focus on generalized orientations toward relationships. For instance, Swap & Rubin (1983) presented a measure of "Interpersonal Orientation" (IO). High IOs are interested in and reactive to other people, whereas low IOs are less interested in others and more socially fearful. Clark et al (1987a) and Clark et al (1987b) developed independent measures of "communal" and "exchange" orientations toward relationships. The communal scale assesses the desire to give and receive benefits on the basis of needs or to demonstrate concern for others. It also measures the desire for the other to follow the same rules. The exchange scale assesses the desire to give

benefits with the expectation of specific repayment or in response to specific benefits received in the past, as well as the desire for the other to follow the same rule. A somewhat similar "exchange orientation" scale was reported by Murstein & Azar (1986). Their measure concerns the tendency to keep tabs on who does what for whom and to keep benefits and favors balanced in relationships.

For the most part, these scales have demonstrated adequate reliability and at least preliminary evidence for construct validity. Moreover, early studies have yielded interesting results. For example, research with Cheek & Buss's shyness and sociability scales has shown that in free interaction, shy-sociable subjects talk less, avert their gaze more, and engage in self-manipulation more often than people who are not shy, or than people who are shy but not sociable. Apparently, the quality of interaction decreases only when people are both strongly motivated to be with others *and* at the same time socially fearful (Cheek & Buss 1981). Murstein and his colleagues found that exchange orientation was positively related to friendship intensity (Murstein et al 1977), poorer marital adjustment (Murstein & McDonald 1983), and greater incompatibility with roommates (Murstein & Azar 1986). The latter two findings fit well with a point noted earlier: People expecting a communal relationship react negatively when others follow exchange norms (e.g. Clark & Mills 1979). However, the friendship intensity finding (Murstein et al 1977) remains a puzzle.

Miller et al (1983) examined the impact of a target's chronic responsiveness to self-disclosure on a discloser's willingness to reveal intimate information. They found that although high "Openers" do not increase disclosure levels from subjects dispositionally inclined to self-disclose frequently, they elicit greater disclosure from partners low in the tendency to self-disclose. Finally, Reis et al (1982) found that among males, fear of rejection by opposite-sex (but not same-sex) others was negatively correlated with their own physical attractiveness. There were no significant correlations between fear of rejection and attractiveness among females. Reis et al (1982) also found that among females, trust of opposite-sex (but not same-sex) others was negatively correlated with their own physical attractiveness. There were no significant correlations between trust and attractiveness for males.

To date, extensive programs of research relating personality characteristics and other individual differences to relationship phenomena remain rare. However, the success of programs investigating self-monitoring (Snyder 1987), intimacy motivation (see the Intimacy section, above; McAdams 1980), and loneliness (Perlmán & Peplau 1981) ought to encourage researchers to explore dispositional factors more extensively, both with the new measures cited above and with older, more established instruments. In the latter category, for instance, Hansson et al (1984) suggest that assertiveness

(Rathus 1973), introversion (Morris 1979), and self-esteem (Stroebe et al 1977) should prove particularly useful in helping researchers understand people's social worlds. Traits such as public and private self-consciousness and social anxiety (Fenigstein et al 1975) hold similar potential. Insofar as dispositional characteristics describe what a person brings to a relationship, such research is an important, but as yet understudied component of relationship processes.

Neglected Areas

In the area of personality factors relevant to interpersonal processes, the predominant research activity involves developing new scales. Although some of these measures have led to considerable attention and findings, others deserve more attention. We see several fruitful directions in which personality-relationship research might progress. For one, with few exceptions (e.g. Glick 1985), we know little about the interaction of personality traits and situational factors, as they pertain specifically to relationship development. Personality traits may affect interaction and relationship development differently depending on the situation. For instance, being high in desire for social approval might lead young adults to select physically attractive, ebullient partners when interacting with peers (who presumably value these attributes), but to choose polite, hardworking, well-bred partners when socializing with family. Or, it might be the case that shy people will interact smoothly with freely chosen partners but awkwardly with others with whom they are forced to converse. Situational norms may also affect the emergence of personality effects. As Ickes (1982) has noted, personality factors are most likely to affect behavior when situational cues and requirements are weak. If we assume, for example, that there are fewer norms regarding acquaintanceship than employer-employee relations, we should expect personality to influence the former type of relationship more than the latter.

Second, we know little about how personality factors interact with relationship types, even though varying relationship characteristics ought to make different personality traits more or less salient. The nature and degree of interdependence, for example, may influence interaction in different ways, depending on the personalities of the persons involved. One might imagine that two individuals differing in the need for dominance might have similar relationships with a distant third person. However, if they were to become more closely involved with the third person, their diverging needs for dominance ought to produce very different relationships with the third person. As yet, person-relationship interactions have received little research. To extend this logic further, we also know little about personality \times situation \times relationship interactions. For example, people dispositionally high in communal orientation may express more emotion than those low in communal

orientation when interacting with family members at home. However, when interacting with family members in public settings, or with superficial acquaintances in any setting, they may suppress emotion displays and consequently appear not to differ from those low in communal orientation. Such research seems likely to advance our understanding of the impact of personality factors on relationship functioning.

METHODOLOGY

Is theoretical necessity the mother of methodological invention, or do new methodologies make their mark by suggesting novel and more differentiated questions? We suspect both propositions are correct. Methodological advances not only allow us to address questions that have resisted earlier research strategies, they also suggest new ways of thinking about phenomena, thereby expanding the conceptual range within which research activity takes place. Because the central phenomena in the new field of interpersonal relations are interactional in their essence, methodological expansion is especially valuable (Hinde 1981; Kelley 1986). Paradigms focusing on the behavior of individuals in isolation need to be supplemented by paradigms focusing on interdependence, relationships, and influence (Kenny 1988). Development of such procedures will no doubt be part of the definition of this discipline.

Relationship researchers already have at their disposal an ever-growing and diverse collection of techniques, strategies, and paradigms. Our review selectively focuses on recently developed or expanded procedures that offer opportunities for enhancing the range of the field's vision. We nevertheless believe that no single approach is likely to suffice for any research question. Triangulation is the best strategy for discovering the essence of a phenomenon. That is, systematic integration of experiments, quasi-experiments, and surveys, of laboratory and field settings, of self-report and observational methods, and of objective and subjective indicators will allow us to rule out alternative explanations and artifacts, and ultimately will yield the least method-bound, and hence most valid, understandings. In other words, the multimethod approach advocated by Campbell & Fiske (1959) three decades ago remains the metastrategy of choice.

In both laboratory experiments and field studies of social interaction and relationships, two general methods have traditionally predominated and still do: self-reports (self-administered questionnaires, behavioral records, interviews, and narrative records) and observer reports (partner accounts, and judges' assessments). Self-report methods remain the most common research tool for several reasons. First, often the people involved are the only ones having access to all information relevant to the researchers' questions. Second, many important phenomena concern subjective meanings ascribed to

objective events (e.g. relationship expectations, perceived intimacy), to which, again, only the involved individuals have access. Third, despite the many criticisms leveled at self-report measures, their generic validity is often adequate, as demonstrated both by explicit studies of this issue and by the predictive and theoretical utility of findings generated by self-reported data (see Harvey et al 1983, for fuller discussion of these issues). Because Harvey et al (1988) review self-report methods particularly relevant to interpersonal relations researchers, including various new measures of relationship satisfaction and evaluation, interpersonal processes, and individual differences, and because many are described in the personality section of this review, they are not discussed here.

Observational studies have become more comprehensive and sophisticated in recent years, in part because technological advances in videotaping and data management via microcomputers permit collection and analysis of more information, differentiated into finer and finer components (both in terms of time and processes). For example, Duncan & Fiske (1985) examined a great variety of verbal, nonverbal, and paralinguistic cues associated with every attempted exchange of the speaking role in lengthy two-person conversations. These procedures are far more labor-intensive than self-report methods, a factor that undoubtedly contributes to their underutilization. They nevertheless can be a rich source of data, especially when independent judgments of behavioral events are compared to self-reports (see Gottman 1979; Montgomery 1981, 1984; Ickes et al 1986; and Reis et al 1985, for examples of this approach).

In the remainder of this section, we selectively review a few new methodological advances that offer novel perspectives or data collection approaches, grouped into two categories: new research design strategies and new procedures and techniques.

New Research-Design Strategies

THE SOCIAL RELATIONS MODEL One of the most important new procedures available to interpersonal relations researchers is the Social Relations Model (SRM) developed by Kenny and his colleagues. Heretofore, researchers have been unable to distinguish effects attributable to characteristics of individual interactants from effects that characterize unique features of their relationship. For example, John's disclosure of personal feelings to Mary may be due to John's general tendency to self-disclose, Mary's general tendency to elicit self-disclosure from others, or something unique about their relationship (i.e. John's tendency to disclose only to Mary, and Mary's tendency to receive disclosure only from John). The difficulty of distinguishing these effects compelled researchers to skirt many of the more interesting questions

about dyadic interaction: What makes one relationship different from another? How does one partner's behavior depend on the other's? How does relationship context affect expression of individual predispositions?

The SRM explicitly takes into account the interactive nature of behavior in relationships by apportioning variance in a given behavior to one of five components: the tendency of all people to display that behavior (i.e. the grand mean); the tendency of one partner to display that behavior to all partners (*actor effect*); the tendency of a partner to elicit that behavior from all actors (*partner effect*); the tendency of actors to display that behavior only to a specific partner (*relationship effect*); and instability or error. (If data are collected only from a single point in time, the latter two components are combined, adding ambiguity.) SRM research designs require crossing subjects so that they interact with multiple partners, thereby permitting distinction of general and relationship-specific interaction tendencies. Fuller descriptions of SRM can be found in Kenny & LaVoie (1984) and Kenny (1987a).

SRM's ability to unconfound individual- and dyadic-level effects and thereby generate theoretically important findings has already been demonstrated. Often, SRM analysis has uncovered, or at least more appropriately specified, conclusions that previously had been obscured or imprecisely inferred from analyses overlooking the individual-dyad distinction. For example, Sabatelli et al (1986) found that the bulk of the variance in nonverbal communication accuracy among married couples was due to sender skill and unique relationship effects, with little evidence of receiver decoding ability effects. Another example is provided by Kenny & LaVoie (1982), who speculated that prior researchers' failure to find evidence of increasing reciprocity of attraction over time might have been a statistical artifact of measures that confounded individual- and dyadic-level effects. When they differentiated these two levels of measurement, strong and increasing within-dyad reciprocity correlations were observed.

SRM has also shown considerable versatility in providing new analytic strategies for old problems, and in illuminating new ways of conceptualizing relationship issues. Three uses are especially noteworthy. First, Kenny (1987b; Kenny & Albright 1987) suggests that SRM be used to isolate precisely specified components of person perception accuracy, a need originally identified by Cronbach (1958) that had heretofore remained methodologically elusive. DePaulo et al (1987) have done so, finding that subjects were inaccurate judges of which partners liked them best, but were successful in estimating how different partners' impressions of them changed over time. Second, SRM might be useful in personality \times situation research (Malloy & Kenny 1986). In this scheme, dispositional factors are actor effects (e.g. do low self-esteem persons smile at everyone more than high self-esteem persons

do?); situational variations induced by another person's behavior are partner effects (e.g. does a warm face elicit smiles from everyone more than dour faces do?); and interactions are relationship effects (e.g. do low self-esteem persons smile only at warm faces?). Third, it has often proved difficult to specify exactly how interaction in "special" relationships (e.g. marriage, parent-child, employer-employee, coach-athlete) is different from interaction among strangers and casual acquaintances. By dividing interaction behavior variance into precisely identified components, SRM offers a new paradigm for uncovering just what is "special" about special relationships (Kenny 1987a).

SRM is not without difficulties. It is as yet a cumbersome procedure with stringent measurement, subject, and design requirements, and data analytic software is not available on standard statistical packages. However, as a paradigm that exploits, rather than ignores or controls, interdependence among dyadic partners, SRM is a very promising tool for asking interesting and uncommon questions about relationships.

STRUCTURAL EQUATION MODELING Another potentially useful research design for interpersonal relations researchers is structural equation modeling (SEM). This procedure, which essentially integrates confirmatory factor analysis with path analysis, evaluates the degree to which a data set fits a given theoretical model—that is, whether the observed correlations are consistent with the various associations predicted by the model. SEM has four primary advantages. First, it permits examination of causal hypotheses with nonexperimental data. Second, by utilizing multiple indicators of the same latent construct, measurement is enhanced, in terms of both internal consistency and generalizability. Third, by focusing on models of the interrelationship among a set of variables rather than myriad simultaneous bivariate correlations, more sophisticated theoretical understandings are likely to emerge. Fourth, and finally, SEM facilitates explicit and direct tests of mediating processes (Judd & Kenny 1981), which have in the past only been assumed or examined indirectly. (It should be noted, however, that the same logic of mediation can also be tested in many instances with simpler regression analyses.)

Although interpersonal process researchers have not yet seized upon SEM with the same enthusiasm as researchers in other areas, there are exceptions. For example, Shaver et al (1985) developed a model of the impact of social skills, network changes, and trait loneliness on changes in state loneliness during the transition to college. Certainly the reluctance of researchers to attempt SEM is due both to its stringent statistical requirements and to needed technical prowess. Nevertheless, programs such as LISREL and EQS are becoming more accessible, so that mathematical novices need not be overly

daunted. In our view, increased reliance on SEM is desirable, not only because of its power to answer questions of the sort listed above, but also because it encourages conceptualization in terms of full theoretical models rather than multiple one-to-one associations. An excellent overview of the applicability of SEM can be found in a special section of *Child Development* devoted to this topic (Connell & Tanaka 1987). More comprehensive instruction is provided by Long (1983a,b).

OTHER STRATEGIES Two additional design strategies are noteworthy. The first, meta-analysis, summarizes effects that cross-cut multiple studies in a rigorous quantitative, rather than descriptive, fashion. Meta-analytic procedures have been developed by Glass et al (1981), Cooper (1984), and Rosenthal (1984), among others, as a formal technique for accumulating the results (and effect sizes) of many studies and for resolving inconsistent findings. Two important advantages are (a) that meta-analysis aggregates data collected in numerous settings using diverse paradigms and measures, thereby enhancing confidence that findings are not unique to particular methods or situations, and (b) that possible distortions due to impressionistic reviews are eliminated.

The literature now contains many meta-analytic summaries relevant to relationships. For example, Borys & Perlman (1985) reviewed 28 studies of sex differences in loneliness. Although only six showed significant sex differences or trends (males were lonelier in all), when the data were aggregated, males were reliably lonelier than females ($p < .01$). Meta-analytic procedures can also confirm the impact of moderator variables, either by correlating effect sizes with levels of the moderator variable (Rosenthal 1984) or by separate tabulations of findings categorized by moderators. Mediating processes can be evaluated similarly. For example, Harris & Rosenthal (1985) conducted 31 separate meta-analyses of different variables thought to mediate interpersonal expectancy effects. Sixteen of these variables provided significant evidence of mediation, whereas 15 did not.

Time-series designs are also growing in popularity and accessibility, although they remain underutilized. These designs allow researchers to examine regular cycles and other action-response patterns in interpersonal data. For example, one might ask whether the probability of a nasty comment is greater immediately after receipt of an insult than it was before. A number of researchers have used time-series designs effectively. Gottman (1979) found that validating responses were more likely to follow problem expression in happy than in unhappy married couples. Duncan & Fiske (1985) identified nonverbal turn-taking rules by examining partner responses to various nonverbal signals. Useful introductions to time-series designs are provided by Bakeman & Gottman (1986) and Gottman (1981).

New Procedures and Techniques

THE ROCHESTER INTERACTION RECORD Self-report methods typically ask respondents to select and summarize various aspects of past social experiences. Several sources of bias—memory, aggregation, and sampling, for instance—are possible with such methods. That is, events become more or less memorable over time, and the rules by which subjects decide which events to describe and how to summarize them are unclear. To eliminate these problems, Wheeler & Nezlek developed the Rochester Interaction Record (RIR; 1977; Nezlek et al 1983). The RIR is a diary-like procedure in which respondents use standardized rating scales to describe every social encounter lasting ten minutes or longer that occurs during a fixed period (usually one to two weeks). Rating dimensions are chosen on the basis of theoretical interest, and subjects are asked to describe each interaction as soon after it occurs as is feasible. The data are then aggregated statistically, both overall and within relational categories of theoretical or descriptive interest (e.g. with same-sex partners, with best friends or lovers, or in groups). Thus, detailed descriptions of spontaneous social participation in everyday life are obtained.

RIR studies have assessed both quantitative (e.g. number of different partners, time spent interacting per day) and qualitative dimensions (e.g. intimacy, pleasantness) of social participation. For example, Reis and his colleagues (Reis et al 1980; Reis et al 1982) found that one's own physical attractiveness related to increased opposite-sex interaction for males, but not for females, contrary to folk wisdom. Attractive persons of both sexes reported more intimate and satisfying interactions with either sex. Milardo et al (1983) found that as primary close relationships deepened, the frequency and duration of contact with other close friends and kin remained unchanged, but contact with intermediate friends and acquaintances lessened. Wheeler et al (1983) showed that loneliness related more closely to lesser intimacy than to deficiencies in interaction frequency. Finally, Cutrona (1986), using a modification of the RIR diary, demonstrated that stress elicits specific behavioral events from others—listening, advice, and caring—that produce feelings of social support, suggesting that support perceptions are rooted in actual interaction and not in global evaluations of a relationship.

THE EXPERIENCE SAMPLING METHOD Another naturalistic technique for studying ongoing social activity is the Experience Sampling Method (ESM; Csikszentmihalyi & Larson 1984; Hormuth 1986; Larson & Csikszentmihalyi 1983). In contrast to the RIR, which assesses all interactions of a given length during a fixed period, the ESM randomly samples representative moments in people's lives. Subjects carry electronic pagers or portable, preprogrammed beepers (e.g. modified digital wristwatches) and are sporadically and un-

predictably signaled during the day. When cued, subjects complete a brief questionnaire describing their current activities, as well as any impressions or ratings in which researchers are interested. Aggregated over time (e.g. one week), these reports provide a detailed and representative portrait of an individual's typical thought, behavior, and affect.

Csikszentmihalyi & Larson's (1984) study of adolescent activity is the most comprehensive ESM analysis to date. Seventy-five high school students were beeped 40 to 50 times over the course of one week. At each instance, they indicated where they were, what they were doing, whom they were with, and what their affective state was (in terms of positivity and activation). The resulting description of adolescent behavior, particularly with regard to social interaction, is extensive and revealing. For example, when compared to other age groups (assessed in other ESM studies), adolescents show greater drops in mood when they leave the company of others, and greater uplifts when rejoining them. Solitude also has benefits for adolescents, however. Those who reported intermediate and high rates of being alone showed better psychological adjustment and school performance. McAdams & Constantian (1983) also used the ESM to advantage. They demonstrated that high intimacy motivation is associated with having more interpersonal thoughts and experiencing more positive affect in interpersonal situations.

These studies, as well as those using the RIR, demonstrate that accurate, well-differentiated descriptions of social participation in everyday life are feasible, and that such measures can be useful in evaluating theoretically driven hypotheses.

THE UNSTRUCTURED INTERACTION PARADIGM A complaint often voiced about studies of dyadic interaction is that laboratory contexts, cues, and demand characteristics provided by the experimenter, and/or a confederate's narrowly scripted activities constrain and shape the subject's behavior, producing findings with limited generalizability. In response to this criticism, Ickes developed the Unstructured Interaction Paradigm (UIP; 1982). This technique involves surreptitiously videotaping whatever interaction spontaneously occurs between two persons waiting by themselves in a room. Typically, partners are unacquainted individuals with known characteristics (e.g. sex role, birth order) who are left alone by an experimenter for five minutes. Upon the experimenter's return, they are separated and asked a variety of questions concerning their impressions and feelings about the prior interaction. Behavioral assessments coded from their verbal and nonverbal interaction (or lack thereof) during the observation period are also collected. Because use of surreptitious videotapes might produce ethical problems, Ickes has developed a number of precautionary procedures (e.g. allowing subjects to erase their tapes, if they choose, before anyone else sees them).

The UIP elicits spontaneous, unstructured dyadic interaction in a format

minimizing experimenter cues about appropriate or desired behavior. Its flexibility is particularly well suited to studying the impact of personality factors on social interaction (see Individual Differences section, above), in that any pairing of preexisting personal characteristics or traits is possible. For example, Ickes & Turner (1983) demonstrated that individuals with older, opposite-sex siblings were likely to have more rewarding interactions with opposite-sex strangers. The technique can also be used for process-oriented research, as Ickes et al (1982) did in a study of reactions to pre-interaction expectancies. They found that expecting one's partner to behave in a positive, friendly manner led subjects to accept and reciprocate friendly behavior, whereas negative expectations led them to discount friendly behavior and react in a distrustful fashion. In a different study examining naturally occurring social cognition, Ickes et al (1986) combined this technique with Cacioppo & Petty's (1981) thought-listing method. Immediately after the five-minute UIP period, participants watched videotapes of their interaction and recorded all thoughts and feelings that they recalled having at that time. This addition seems promising in that it expands the range of phenomena that can be considered in Ickes's paradigm to include more covert variables. They found, for example, that persons high in private self-consciousness increased their conversational involvement by adopting metaperspectives more often (i.e. A's thoughts about B's thoughts about A).

PSYCHOPHYSIOLOGY Although psychophysiological constructs have been of interest to interpersonal process researchers since the 1920s, recent advances in instrumentation and understanding of physiological processes have greatly enhanced the appeal of such measures as skin conductance and resistance, heart rate, and facial electromyogram (EMG) activity (Cacioppo & Petty 1983, 1986). Psychophysiological measures have at least three distinct advantages: (a) on a purely methodological level, they provide information about individual responses relatively unaffected by many biases inherent in self-reports; (b) they help illuminate the manner in which physiological processes influence social relations (and vice versa); and (c) they enable researchers to isolate and identify component processes of social behavior. To illustrate this latter point, Cacioppo & Petty (1986) analyzed many psychophysiological studies of social facilitation and cognitive dissonance. They concluded that a single underlying process of general or autonomic arousal was less likely than a two-stage process involving assessment of potential negative consequences for oneself, followed by "effortful striving."

A study by Levenson & Gottman (1983), described earlier, exemplifies the potential of psychophysiological measures for interaction research. They constructed an index of "physiological linkage" (i.e. close parallel responses between husband and wife) in married couples from four measures: heart rate,

pulse transmission time, skin conductance, and general somatic activity. As they predicted, linkage was correlated with marital satisfaction during conversations about conflictful issues but not about events of the day. Levenson & Gottman interpreted this result as indicating that spouses in distressed marriages are “locked into” a pattern of negative affect reciprocity that discourages enjoyable marital interaction and constructive problem solving. More relevant to present purposes, physiological linkage and self-reported affect reciprocity accounted for independent variance in marital satisfaction.

We suspect that in the near future, psychophysiological indicators will gain popularity among researchers generally interested in interpersonal relations, and particularly in the three processes we have featured—emotion, intimacy, and outcome interdependence. This may be especially true for facial EMG, which assesses muscular activity in various regions of the face. The face is debatably the dominant channel for communicating emotions in humans and animals (Izard 1977), so that any procedure capable of detecting both gross and subtle variations associated with different emotional experience and expression has great potential for studying emotional reactions to, and interdependence with, others.

OTHER PROCEDURES Two additional procedural innovations bear note. The first of these, simulation methodologies, have been used to investigate implications of varying assumptions or conditions inherent in social psychological theories. For example, Kelley (1985) programmed “robots” to play numerous payoff matrix games under different assumptions (e.g. metaperspectives—thinking about what the other actor is thinking about you). Changes in their payoff outcomes demonstrate the impact of these assumptions for dyadic interdependence. For example, metaperspectives reduced the likelihood that Kelley’s robots would exploit their game partners in order to enhance their own outcomes. In a very different realm, Kalick & Hamilton (1986) used simulation data to argue that dating partners might be roughly equivalent in physical attractiveness not because of any inherent preference for matching, but rather as an artifact of the tendency of more attractive persons to be selected first (and hence leave the pool of available partners). Although their conclusion has been challenged (Aron 1988), the value of simulations for testing the logical consequences of such assumptions is clear.

Second, in attempts to develop extensive data bases more efficiently, some institutions have initiated ongoing, collaborative services that centralize data collection, processing, and storage. Such efforts make more information available to a greater number of researchers with less total expenditure of resources and energy. Perhaps the best known example is the Computer Administered Panel Study (Latané 1987).

In closing this section, one point bears reiteration. Although these designs

involve new statistical and methodological procedures, their value is less in changing the way researchers perform computations and conduct studies than it is in expanding the way researchers think about the phenomena they are studying and formulate researchable questions.

CONCLUDING COMMENTS

Although the field's vision has expanded and our understanding of many elements of relationships has grown, in the process of reviewing the literature several gaps and ambiguities became apparent. By way of concluding, we briefly discuss some of these issues.

1. Two types of research predominate in this literature: laboratory experiments involving strangers, and correlational studies or surveys of individuals in ongoing close relationships. It seems to us that, too often, advocates of each approach neglect findings generated from the other, or, worse, actively dismiss the other in their attempt to promote one particular paradigm. We believe that integration of information obtained from both strategies is essential for understanding complex and multifaceted close relationships. Certainly such integration can be difficult, given that diverging results might be due to variations in method, setting, length or type of relationship, or other substantive differences. To facilitate integration, researchers need to fill certain key gaps that permeate the literature. For example, we need laboratory experiments using ongoing relationships to contrast with similar experiments utilizing strangers; we need studies of relationships among superficial acquaintances, parents and children, cousins, coworkers, enemies, and secretaries and their bosses to contrast with existing studies of close friends and romantic partners. Through such comparisons it will be possible to distinguish relationship, situation, and method effects.

2. Our impression is that field studies of ongoing relationships tend to be descriptive, whereas tests of cause and effect tend to be confined to the laboratory. Certainly, careful and thorough descriptive research is necessary and beneficial as new topical areas emerge (Kelley et al 1983). It is nevertheless imperative, in our opinion, to test causal hypotheses about ongoing close relationships not only in the laboratory (as advocated above) but also in their natural, everyday context. Relationship context and history, in all their complexity, may be important moderators of the processes that interest researchers. For example, in day-to-day marital conflict, spouses might use the claim "I'm too busy now" as an avoidance strategy, a ploy not available in laboratory interaction. It is therefore important to verify that processes observed in the laboratory also operate in spontaneous everyday behavior. Fortunately, given the methodological advances described earlier, naturalistic studies are increasingly effective vehicles for testing causal hypotheses.

3. In laboratory studies, researchers tend to measure fine-grained components of a process, whereas in field studies, they tend to assess global and aggregated impressions. For example, laboratory tests of equity theory often examine a single allocation of one class of resource, such as money. On the other hand, field studies typically use global ratings of equity, such as the Hatfield et al (1985) measure based on a single question: "Considering what you put into your relationship, compared to what you get out of it . . . and what your partner puts in compared to what he or she gets out of it, how does your relationship 'stack up'?" Fine-grained measures and global aggregates are both valuable sources of knowledge, but it cannot be assumed that they will produce analogous results. Moreover, even if they did, the same mediating processes may not be responsible for both effects. It consequently is necessary to utilize both sorts of measures in the laboratory and in the field. At the same time, empirical comparison of these differing levels of measurement (including studies of processes that may be responsible for differences) is needed.

4. As Hinde (1981) and Duck & Sants (1983), among others, have noted, relationships are more than the sum of repeated interactions. Sustained relationships involve different features, components, and processes than single interactions do, even when summed across many episodes. We do not deny the obvious truism that relationships are built upon the substance of individual interaction. But the nature of relationships depends on the manner in which partners aggregate, process, and reflect on their interactions with each other. It should therefore be expected that principles derived from studies of single encounters will require additional empirical scrutiny and, often, elaboration and modification in order to be generalized to ongoing relationships.

5. Researchers have recently begun studying relationship development. Much of this research is cross-sectional, some of it is longitudinal. Valuable substantive findings about first impressions and initial interaction [cf Berscheid's (1983) summary] and relationship distress and conflict (cf Baxter 1987; Gottman 1979) have accumulated. However, we are struck by the relative absence of research into certain critical time periods. What happens, for instance, after first meetings, when a new contact burgeons into close friendship or romance a few weeks or months later—that is, during the period in which partners learn about each other and negotiate the terms of their friendship? We also need to know more about what might be termed the "postmortem" phase—the period following relationship dissolution—and how this stage affects development (or lack thereof) of subsequent relationships. Studies of the termination phase itself exist (summarized in Baxter 1987). Yet people maintain memories, feelings, habits, and fears that may profoundly affect the possibility and nature of subsequent relationships (e.g. Harvey et al 1986), and these processes have been little studied.

During the past decade, our knowledge about interpersonal processes affecting close relationships has grown. At the same time, as is inevitable and perhaps desirable in any scientific endeavor, our awareness of gaps and deficiencies in the literature has also grown. Close relationships are an intrinsically difficult phenomenon to investigate. Many of the most important components are inherently subjective, and others are distorted by subjective impressions, yielding data that can be difficult to interpret. Relationships are interactive, dyadic, and time-bound, necessitating special methodologies. Moreover, folk wisdom and naive psychology offer principles and advice, some of it accurate, some of it not, about almost every aspect of interaction in relationships. For these reasons and more, research conducted under the heading of interpersonal processes in close relationships may at times be reproved and at other times be discouraging. We nevertheless share Berscheid's conviction that the field must "stop to consider not only the difficulties of the task we face, but its importance to the human condition" (1986, p. 286). By doing so, researchers will be able to recognize how far our understanding has already come, and how our present activity should be designed to move us further along the path.

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