The reprint on the following pages was scanned into the present pdf format file from an original copy of the published article. To reduce the size of the file, the scanned images were converted to text using OCR software, prior to converting to the final pdf file that you are now reading. Please note that occasionally this process introduces errors that were not in the original. We have attempted to correct such errors, but acknowledge that some may still exist. If you discover a substantial error, please contact Craig Anderson using the following email address: caa@iastate.edu.

Please note that this electronic reprint is provided as a courtesy. Please do not post or distribute this reprint in any fashion that may violate the copyright of the original publisher or the authors.

Thank you for your interest in this work.

5

LONELINESS, SHYNESS, AND DEPRESSION: THE ETIOLOGY AND INTERRELATIONSHIPS OF EVERYDAY PROBLEMS IN LIVING

Chapter in T. Joiner and J.C. Coyne (Eds.) The interactional nature of depression: Advances in interpersonal approaches. **Washington, D.C.: APA**

JODY C. DILL AND CRAIG A. ANDERSON

And indeed there will be time
To wonder, "Do I dare?' and, "Do I dare?"
Time to turn back and descend the stair,
With a bald spot in the middle of my hair . . .
Do I dare
Disturb the universe?
(From The Love Song of J. Alfred Prufrock, 1917, by T. S. Eliot
[1888- 1965], Anglo-American poet.)

Shyness, loneliness, and depression-these are the bane of modern U.S. society. Like the four horsemen of the Apocalypse, this troika of "everyday problems in living" (Anderson & Arnoult, 1985a) rides down the unsuspecting and undeserving with no regard for age or income, education or status, race or gender. Recent statistics show that 8% to 10% of the U.S. population will experience a major depressive episode during their lifetime and that at any given time, roughly 15% of the population show some significant depressive signs (B. Brown, 1974; Secunda, 1973). Loneliness characterizes about 26% of the population at any given point in time (Bradbum, 1969). Zimbardo, Pilkonis, and Norwood (1974) reported that 40% of the population indicate that they have serious problems that are due to shyness.

EVER-WIDENING IMPACT

In addition to the emotional trauma and psychological suffering inflicted on the victims, these problems exact a heavy monetary toll on society. Like a pebble tossed into a pond, these problems have their most obvious effects at the point of entry, but the impact radiates outward in an ever-widening circle. Perhaps this simile is too optimistic: It implies that one can observe and predict relatively low-level effects as the modest-sized waves dissipate at increasing distances from the initial point of impact. A coastal earthquake may provide a better analogy. The most obvious victims are those at the epicenter-the shy, the lonely, and the depressed. However, such traumatic events can lead to unexpected problems at quite some distance, just as the tsunami created by the earthquake can appear suddenly and unexpectedly thousands of miles away. For example, it is not simply the immediate family who suffer with the shy, lonely, and depressed; coworkers, friends, and acquaintances of the family may also be adversely affected. The health care costs, lost days at work, increased accident rates, and decreased productivity of the immediate victims and these "ripple effect" victims are all consequences of shyness, loneliness, and depression.

Other hidden costs also accrue. For instance, there are theoretical and empirical reasons to suspect that these problems in living increase the likelihood of a variety of violent behaviors, ranging from child abuse to murder. For instance, Lee, Zimbardo, and Bertholf (1977) showed that convicted murderers who had no prior history of violence were unusually shy. Shyness, loneliness, and depression may all increase a variety of aggressive behaviors through at least three separate mechanisms (e.g., Anderson, Anderson, & Deuser, 1996; see also Berkowitz, 1993; Geen, 1990). First, the lack of satisfying interpersonal ties may contribute to a lower or less effective set of inhibitions against aggression. Second, the high level of negative affect characteristic of these problems in living may increase unwarranted aggression. Finally, these problems may prime aggressive thoughts, thus producing increases in aggression.

THE ROLE OF MODERN SOCIETY

Numerous characteristics of modem society contribute to shyness, loneliness, and depression. The high mobility in U.S. society makes it difficult to develop and maintain close interpersonal relationships, even within families Similarly, the loss of intergenerational ties and the rise of single-parent families contribute to the social isolation that underlies many of the problems in living. These characteristics of modem U.S. society, and of most industrial societies, in conjunction with traditional values of in-

dividualism, have contributed to the development of an unhealthy focus on the self, the individual, and the "me" perspective.

One of the authors (Craig A. Anderson) has described this pattern of values as the "myth of materialism" in annual addresses to new Psi Chi (the Psychology honor society) members. It is fascinating to watch the facial expressions of this select group of students as they hear, perhaps for the first time, a challenge to the belief that happiness is best obtained by making and spending large sums of money. Some clearly do not believe the challenge; others display a surprised look, revealing that they had never seriously considered the possibility that there are values that are more important than "materialism." Of most interest, however, are the subsequent discussions. Many students have been taught at some intellectual level to value their interpersonal relationships. Many even seem to believe that "helping others" is a valuable goal; however, they also report tremendous peer pressure to have "nice things." They feel that others judge them by the quality of their car, clothes, and stereo. Furthermore, they realize that "society" often judges the success of a person by his or her salary or investment portfolio. Is it any wonder that in such a society people feel threatened, unworthy, and isolated? Even those who are successful by these materialistic standards are likely to feel nagging self-doubts as their interpersonal world continues to wither because of lack of attention.

These societal effects are beyond the scope of this chapter, but they are important to bear in mind when attempting to understand various everyday problems in living. As we articulate in greater detail in later sections, the societal effects provide a background on which we paint our portraits of three problems in living.

EVERYDAY PROBLEMS IN LIVING

Definitions

The main focus of this chapter is on the interrelationships among three everyday problems in living: shyness, loneliness, and depression. The latter has received by far the most theoretical and empirical attention by psychologists, and for good reason. It is an extremely common condition with major negative outcomes.

Depression is itself a broad category that has been subdivided in numerous ways. In this chapter we focus on the type of depression that has been termed **unipolar** and **reactive**. Many of the studies we cite do not explicitly include "clinically depressed" populations, mainly because the investigators used standardized self-report measures of depression (such as the Beck Depression Inventory) on normal populations.

Some scholars prefer to label the distressed people in these studies

dysphoric rather than **depressed**, in part because of a belief that the clinically depressed are (or might be) very different from the moderately depressed. We eschew this distinction for two reasons. First, as noted in the opening paragraph, a substantial portion of the general population is clinically depressed at any given time. Therefore, the studies of general populations (e.g., university students) are likely to include truly depressed individuals. Second, our theoretical orientation suggests that differences in the most common forms of unipolar depression are largely a matter of degree, not of kind. However, it is important to note that some independent variables of interest (e.g., attributional effort) may not be linearly (or monotonically) related to self-reported depression. For instance, Weary and her colleagues (Weary, Marsh, Gleicher, & Edwards, 1993) suggested a curvilinear relation between depression and attributional effort. Specifically, these authors have shown that moderately depressed college students engage in more attributional work than either the nondepressed or the severely depressed.

Shyness and loneliness have also occasionally been split into various subcategories. However, there is less empirical work on these constructs than on depression. Furthermore, there is no evidence that the various subtypes of shyness and loneliness require substantially different theoretical treatment. Therefore, we focus on the general categories of shyness and loneliness, rather than on subtypes of each.

Interrelationships

We view shyness, loneliness, and depression as a highly interrelated set of problems. The three are interrelated at two different levels of analysis. At one level, they share many common etiological, preventive, and treatment features. For example, stressful environments and maladaptive attributional styles contribute to each problem. These common features, as well as distinctive ones, are discussed in greater detail in subsequent sections of the chapter.

At a second level of analysis, these problems are causally related to each other. For example, being shy has important implications for the development of loneliness and depression. Shy people avoid social interactions, mainly because they feel anxious in them. They typically display poor social skills when they are in social situations. As a result, they may have few solid social relationships and may become lonely individuals. Finally, the lack of social support and positive social interactions may well lead to depression.

In a similar way, depression can contribute to loneliness. Some depressed people repeatedly seek reassurance from their friends and family. After a while, such constant reassurance seeking may become so annoying that it harms the positive relationships that initially existed. In other words, depressed people sometimes drive away those who had been their

best friends. This loss of social support can exacerbate the depression and create intense feelings of loneliness as well.

There has been relatively little empirical or theoretical work on the causal connections among shyness, loneliness, and depression. What work has been done is consistent with the model we present in Figure 1. This model displays what we believe to be the modal set of relations among these three problems in living. Note that we also believe that each of the three problems can, under some circumstances, have a causal impact on the other two, as the depression → loneliness example described earlier illustrates.

Shyness

In this model, shyness is seen as playing a causal role in the development of loneliness. Shy people have a hard time establishing and maintaining strong interpersonal relationships. The fear and anxiety that characterize shyness interfere with attempts to interact with others. The embarrassments and failures created by these poor attempts eventually lead shy people to avoid social encounters. If this pattern leads the shy person to have fewer social contacts than he or she desires, loneliness results.

Shyness can also have a causal effect on depression, both directly and indirectly through loneliness. We believe that the indirect effect is the more common one: Shyness interferes with the healthy development of satisfying interpersonal relationships which in turn may lead to depression. The direct effect is probably weaker. The social failures and concomitant anxiety all produce negative affect and, hence, an increase in depression

Loneliness

Loneliness itself can come about for a variety of reasons, some of which may have to do with the lonely person's interpersonal failures. The shyness route to loneliness is one such example. Social anxiety combined with poor social skills results in a meager social life that the person finds unacceptable. There are other routes to loneliness as well. Poor social skills, even in the absence of social anxiety, may yield loneliness rather than interpersonal satisfaction. Alternatively, the social environment may be such that there are few social options available-too few to prevent loneliness. For example, the new kid in school may be lonely because she lost all her friends when her family moved to a new city. It can be particularly hard to develop a new set of friends in the teen years because the social structure of classmates may already be firmly established. Other problematic situations arise for adults moving to new jobs and for people moving into retirement communities or nursing homes. Divorce and death are additional external sources of loneliness. Being clearly different from other people in one's environment may also hamper the formation of close inter-

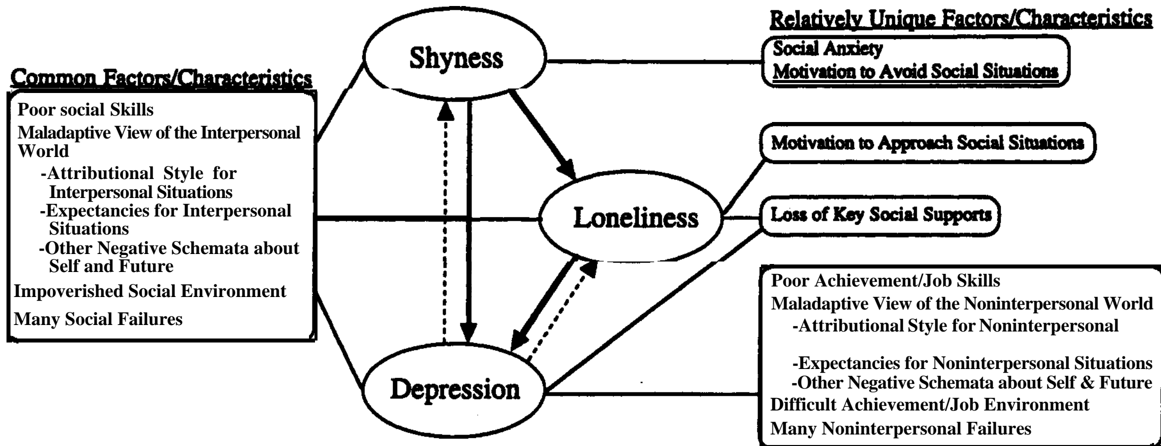

Figure 1. Relations among shyness, loneliness, and depression.

personal ties. Membership in a racial minority group and having some physical stigma are examples of conditions that can get in the way of the formation of new interpersonal relationships.

in many of these externally caused cases of loneliness, the problem may be temporary. If the person has good social skills, and if the environment has appropriate social opportunities, new interpersonal relationships may eventually develop. However, as we note in a later section, some of the motivational and affective consequences of loneliness may lead to a pattern of self-defeating behaviors that prevent resolution of the problem.

Regardless of the initial reason for the onset of loneliness, one possible consequence is depression. Indeed, one could create a category of depression that is specifically composed of those who are depressed primarily because of persistent loneliness. The lack of positive social reinforcers and dissatisfaction with one's interpersonal life produce the cognitive, affective, and behavioral states characteristic of depression.

Depression

The model includes interpersonal causes of depression (e.g., loneliness) as well as noninterpersonal causes of depression. Career setbacks and similar achievement-related failures can certainly cause a depressive episode to begin. Regardless of the initial source, however, the consequences of depression can serve to maintain and even expand the depression. As noted earlier, reassurance-seeking behavior patterns of depressed people can produce additional interpersonal problems (such as loneliness and shyness), even when the initial precipitating cause of depression had nothing to do with interpersonal relationships.

Treatments

We also focus on treatment implications of the shyness, loneliness, and depression models. In each problem, treatments vary as a function of the specific difficulties underlying the problem. For example, loneliness caused by poor social skills may be treated by assigning social skill acquisition tasks. Depression caused by the same type of loneliness may be treated in a similar manner, although complicating factors may require additional treatment elements.

Prevention

A thorough understanding of shyness, loneliness, and depression gives rise to implications for prevention. Use of proper parenting styles can lead to the acquisition of more adaptive attachment styles, which in turn en-

courage the development of strong social skills and relationships. Values training (e.g., Rokeach, 1973), at home, church, or school, can result in the development of a more adaptive set of values than the distorted "me first" perspective modeled in the mass media. (We are reminded of the challenge issued by John F. Kennedy in his inaugural address [January 20, 1961, Washington, DC] to "ask not what your country can do for you-ask what you can do for your country.") Other important suggestions for preventive interventions designed to improve the social functioning of those most at risk include modified classroom settings (e.g., jigsaw classroom; Aronson & Osherow, 1980; Aronson, Stephan, Sikes, Blaney, & Snapp, 1978), changes in housing design (e.g., Festinger, Schachter, & Back, 1950), and poverty reduction and employment programs.

In short, improving the social behaviors of people of all ages through training or education, through modifying the structure of social situations or of the physical environments in which social interactions occur, or by reducing of the stresses of poverty and parenthood can reduce the problems of shyness, loneliness, and depression. We turn now to a more detailed discussion of each of these problems in living.

A NOTE ON ATTRIBUTIONAL STYLE

In subsequent sections of this chapter, we outline characteristic features, major antecedents, typical consequences, and potential treatments for shyness, loneliness, and depression. One major antecedent factor and potential treatment target for each of these problems in living is a maladaptive attributional style. Because other authors represented in this volume discuss attributional style in some detail, we do not provide extensive coverage in this chapter. However, a brief word seems appropriate to aid readers in obtaining an overall view of shyness, loneliness, and depression.

For all three problems in living, the most common maladaptive attributional style is one in which the person attributes his or her failures to causes that are simultaneously uncontrollable, stable, and internal, such as poor social skills or personal worthlessness. Similarly, a shy, lonely, and depressed person tends to attribute his or her successes to causes that are simultaneously uncontrollable, unstable, and external, such as getting a lucky break.

One major difference between the characteristic maladaptive attributional styles of persons with these problems concerns the range of situations to which they apply. Shy and lonely people tend to have maladaptive attributional styles primarily for interpersonal situations, whereas depressed people display the same maladaptive attributional styles for interpersonal and noninterpersonal (e.g., achievement) situations (e.g., An-

derson & Amoult, 1985a, 1985b; Anderson, Miller, Riger, Dill, & Sedikides, 1994; Johnson, Petzel, & Johnson, 1991; Renshaw & Brown, 1993; Teglasi & Hoffman, 1982).

A final point to keep in mind while exploring these problems in living is that temporarily modifying people's attributional styles causes corresponding changes in their behavior. That is, inducing shy, lonely, or depressed people to make adaptive attributions for a particular event leads to behaviors that are indistinguishable from those of their nonshy, nonlonely, nondepressed counterparts, whereas inducing normal people to make the maladaptive attributions typical of shy, lonely, or depressed people makes them behave as if they were suffering from these problems in living (e.g., Anderson, Jennings, & Amoult, 1988; Brodt & Zimbardo, 1981).

SHYNESS

> **Shy and proud men . . . are more liable than any others to fall into the hands of parasites and creatures of low character. For in the intimacies which are formed by shy men, they do not choose, but are chosen.**
> **(From *The Statesman*, 1836, p. 76, Sir Henry Taylor [1800-1886], English author.)**

As they have for many psychological constructs, researchers have struggled to gain a consensual definition of shyness. The conceptions that exist focus on different characteristics of shyness that different researchers believe to be most important. Buss (1980) referred to shyness as a form of social anxiety, or discomfort in the presence of others, akin to what most people feel when in the presence of an audience. Tomkins (1963), on the other hand, defined shyness as an aspect of the underlying fundamental emotion of shame. Cheek, Melchior, and Carpentieri (1986) proposed that shyness is "the tendency to feel tense, worried, or awkward during social interactions, especially with unfamiliar people" (p. 115). This account emphasizes the importance of anxiety in response to face-to-face social interactions; it emphasizes the feeling of shyness. Leary (1986) defined shyness as "an affective-behavioral syndrome characterized by social anxiety and interpersonal inhibition that results from the prospect or presence of interpersonal evaluation" (p. 30). Here, the importance of felt anxiety is joined by a behavioral dimension-one of inhibition and withdrawal. An additional hypothesized component to shyness is found within a description provided by van der Molen (1990). In his conception, shyness is distinguished by three important components:

1. Fear (a component similar to anxiety or arousal)
2. Social skills deficit (behavioral inhibition)

3. Irrational thoughts. The third component consists of unrealistically maladaptive attributions of past interpersonal failures and negative anticipations of future interpersonal performance.

All these definitions have in common one major motivational implication. The dominant motive in all cases is social avoidance. In other words, shy people are strongly motivated to avoid social interactions because of the anxiety and negative arousal experienced in such situations.

Each of the three hypothesized components of shyness has received some empirical support. Regarding the anxiety component, Cheek and Melchior (1990) reported that 40%-60% of shy high school and college students have trouble with multiple symptoms of anxiety. In addition, in a study in which shy women were asked to describe freely why they considered themselves shy, 38% listed at least one somatic anxiety symptom (Cheek & Watson, 1989).

The associated behavioral inhibition is an extremely common symptom of shyness. Pilkonis (1977a) described shy participants as speaking less frequently, allowing more silences to occur in the conversation, and breaking silences less often than nonshy participants. Awkward bodily movements, gaze aversion, and general social unresponsiveness are typical behavior patterns of shy individuals (Buss, 1984).

The percentage of shy people estimated to have cognitive symptoms ranges from 44% (Cheek & Watson, 1989) to 77% (Fatis, 1983). Whatever the frequency of the cognitive component embedded in the experience of shyness, the nature of these symptoms is fairly clear. Shy individuals, compared with nonshy individuals, exhibit a self-defeating attributional style in which positive self-relevant events are considered due to luck and other unstable characteristics, and negative self-relevant events are considered due to ability and other stable characteristics (Anderson & Amoult, 1985a, 1985b; Arkin, Appelman, & Burger, 1980; Leary, Atherton, Hill, & Hur, 1986; Teglasi & Hoffman, 1982).

The fact that shyness can manifest itself acutely through any of the aforementioned three criteria has led to the proposition that there are different types of shyness. For instance, Pilkonis (1977b) defined the publicly shy as those for whom the behavioral component is most salient. In contrast, the privately shy are those who are most sensitive to the internal characteristics of shyness such as arousal and cognitive distortions. Although researchers have debated which of these three components predominates in the concept of shyness, it is generally agreed that all are necessary to circumscribe completely the boundaries of the concept. In general, these three components act together to form a modal interpersonal tendency toward anxiety, negative thinking, and behavioral awkwardness, which serves as a great motivator to avoid the presence of others.

Antecedents of Shyness

The causes of shyness are difficult to isolate, primarily because of the inherently correlational nature of relevant data. Cross-lagged panel designs and causal modeling have improved the understanding of correlational data but do not wholly solve the correlation-causation problem. The following section explores some potential antecedents of shyness and cites evidence, when available, of variables that may play a role in the etiology of shyness. At the least, the following variables seem to be concurrent predictors of shyness and have a role in its maintenance. They may also play causal roles in the development of shyness.

High Arousal and Anxiety (Especially Social)

As one of the three most accepted characteristics of shyness, anxiety may play some role in its etiology. Consider the likely developmental consequences of a constitutionally anxious child. At low levels of arousal, he or she is quite comfortable. However, the presence of others is a particularly arousing condition (Zajonc, 1965), especially if negative outcomes are expected (Geen, 1979) or a task to be accomplished in the presence of the audience is perceived as difficult (Smith, Baldwin, & Christenson, 1990). The child may perceive most interpersonal situations as overarousing or anxiety producing, and the behavioral result may be withdrawal from social situations.

Of course, if children repeatedly cope with overarousal by withdrawal, their interpersonal experiences will frequently be failures, and their interpersonal skills will have little opportunity to develop. Awareness of such failures only adds to the arousal until it blossoms into full-blown anxiety. After many such instances, the arousal, anxiety, cognitive distortions, and behavioral withdrawal patterns become what we call shyness. In brief, the low arousal threshold of those who are by temperament highly anxious can lead to the development of the full syndrome of shyness.

Recent evidence supports this basic line of reasoning. Eisenberg, Fabes, and Murphy (1995) showed shyness to be associated with high emotionality and empathic overarousal (or personal distress) and inversely related to attentional shifting. The authors interpreted these findings in the following manner: The empathic overarousal created by social situations is turned inward because the individual is poor at shifting his or her attention to the other. Repeated exposure to anxious self-preoccupation in social situations leads to the perception that such situations are generally aversive and are to be avoided. Stated in this manner, overarousal spirals into anxiety, which, over time, evolves into shyness.

In the shyness literature, it is common to find relationships between shyness and anxiety, specifically social anxiety (Eisenberg et al., 1995;

Lahey & Carlson, 1991; Lawton, Powell, Kleban,& Dean, 1993; Neto, 1992). Indeed, Anderson and Harvey (1988) showed that the most popular self-report measures of shyness and social anxiety are indistinguishable. One insight into the relationship between shyness and anxiety comes, somewhat unexpectedly, from research on sleep. Hartmann (1973) found that "long sleepers," individuals who consistently require more sleep than average, tended to be shy and showed considerable anxiety in an experimental interview. Hartmann added that "several consciously placed great value on sleep and even saw it as an escape from a somewhat painful waking life" (pp. 98-99). Some participants in Hartmann's study noted that they "value the isolation of sleep" or "sleep a lot to get away from things" (p. 99). Perhaps the drive for isolation or to "get awayfrom things" is in the service of avoiding the anxiety that, for shy individuals, is a fundamental part of social existence.

Shy individuals do, indeed, tend to be prone to physiological arousal, especially when anticipating social interaction. Granger, Weiss, and Kauneckis (1994) found that neuroendocrine activity (i.e., cortisol increase) was associated with social withdrawal and social anxiety (referred to as internalizing behavior problems) Whether the neuroendocrine activity leads to social withdrawal and anxiety or the internalizing behavior problems lead to a reduced threshold for mildly stressful environmental events, arousal seems to play a role in the etiology and maintenance of shyness. Furthermore, Kagan and Snidman (1991) reported that physiological changes indicative of increased autonomic activity are characteristic of children who are prone to extreme withdrawal from unfamiliar social situations. The authors also reported that 15% of Caucasian children exhibit this pattern that is so stereotypical of shyness.

Because arousal plays such a major role in shyness, understanding factors that predispose to overarousal becomes important. Because arousal regulation is believed to have a biological basis (Kagan, Snidman, & Arcus, 1993; Larsen & Deiner, 1987; Plomin & Stocker, 198 Rothbar & Derryberry, 1981), one would expect shyness to have a genetic compo

Genetic Component

Shyness has been considered one of the most heritable dimensions of temperament throughout the life span (Plomin & Daniels, 1986). Most of the research on the heritability of shyness has focused on its behavioral component. Behavioral inhibition has repeatedly been found to have a genetic or biological foundation for children, adolescents, and adults (Bell, Jasnoski, Kagan, & King, 1990; Kagan,Resnick, & Snidman, 1988; Kagan & Snidman, 1991; Matheny & Dolan, 1975; Plomin & Daniels, 1986; Plomin & Rowe, 1979). The 15% of Caucasian children mentioned earlier who exhibit behavioral withdrawal (Kagan & Snidman, 1991) appear to

be stable in that characteristic over the first 7 years of life; they can even be identified at 24 months by their high levels of motor activity and crying to unfamiliar stimuli.

Bell et al. (1990) found that parents who suffer from panic disorder and depression have an unusually high incidence of shy children and that these children have a heightened sensitivity to allergies, especially hay fever. The latter finding is interpreted as a genetic correlate of shyness, indicating that the stable temperamental characteristic of shyness is found in those who also have a genetic susceptibility to nasal allergies. It is interesting to note that the shy participants of the Bell et al. study reported more anxiety than did the extroverted participants.

Much of the research on the genetic basis for shyness involves the study of monozygotic and dizygotic twins (Kagan et al., 1988; Matheny & Dolan, 1975; Plomin & Daniels, 1986; Plomin & Rowe, 1979). These investigators have found, in general, that genetically identical (monozygotic) twins are more similar to one another with regard to shyness than are genetically nonidentical (dizygotic) twins.

Poor Social Skills

In addition to arousal-anxiety as an antecedent to shyness, possessing poor social skills may also be important. The causal relationship between arousal and social skills is still unresolved; one possibility is that heightened arousal and anxiety coupled with internalizing behaviors (e.g., social withdrawal and social anxiety) merely reduce one's ability to learn social skills adequately. Alternatively, lacking adequate social skills (or even believing that one lacks social skills) may lead to heightened arousal when a social situation is encountered. Investigations into the role of arousal and anxiety in shyness often involve the participant's anticipation of a social interaction. Expectations of failure and perceptions of difficulty frequently lead to anxiety and arousal. Therefore, poor social skills (real or imagined) can exacerbate the arousal problems by increasing the perceived difficulty and risk of failure. In other words, poor social skills can be a cause and a consequence of maladaptive levels of arousal in social situations.

It is also possible that poor social skills alone lead to shyness. The behavioral inhibition component of shyness can, itself, be seen as a poor social skill. McCullough et al. (1994) reported that individuals who were overly submissive in social situations showed inhibited, introverted behaviors. To tease apart lack of social skills from behavioral inhibition and to show that the relative absence of social skills can lead to shyness, it would be important to locate previously nonshy individuals who, for some reason, have lost their ability to maintain adequate social skills and have, therefore, fallen into the state of shyness. Knutson and Lansing (1990) showed that lost social skills can lead to shyness in a study involving individuals who

acquired profound hearing loss. They proposed that the typical relationship between hearing loss and psychological disturbance (Thomas, 1984) is mediated by personal or environmental variables or both:

> Among the personal attributes that could mediate the effect of acquired hearing loss on psychological functioning are the communication behaviors adopted by persons with a hearing loss and the degree to which those communication strategies meet their unique personal, occupational, and familial demands for communication. (p. 656)

Their results showed that the decline in communication skills following hearing loss led to social introversion, social anxiety, and even loneliness and depression.

Consequences of Shyness

The consequences of shyness are numerous. Some are relatively minor, such as feeling a bit awkward in novel social situations. Other consequences are so severe that they can cause major disruptions in all areas of one's life. A full description of these is beyond the scope of this chapter. Interested readers may refer to useful discussions by Leitenberg (1990), Pilkonis (1977a, 1977b), and Zimbardo (1977).

Shyness also has a major consequence that is particularly relevant to this chapter, namely, loneliness (Cheek & Busch, 1981; Ekkehard, Fäth, & Lamm, 1988; Kalliopuska & Laitinen, 1991; Moore & Schultz, 1983). In the following sections, we turn our focus from shyness to loneliness, which we discuss not only as a consequence of shyness but also as a diverse, potentially multidimensional problem with its own unique antecedents and consequences. We then turn our focus to depression, which is a major potential consequence of both shyness and loneliness.

LONELINESS

> **The whole conviction of my life now rests upon the belief that loneliness, far from being a rare and curious phenomenon, peculiar to myself and to a few other solitary men, is the central and inevitable fact of human existence.**
> **(From *The Anatomy of Loneliness*, 1941 by Thomas Wolfe [1900-1938], American novelist.)**

Like shyness, loneliness does not have a universally accepted definition (Horowitz, French, & Anderson, 1982; Ryan & Patterson, 1987). Anderson (1992) noted that there is disagreement on whether loneliness should be considered a unidimensional construct (e.g., a simple discrepancy between an individual's desired and obtained social contacts) or a multidimensional construct (e.g., dividing loneliness on distinct and separate

dimensions). The unidimensional approach is exemplified in the work of Peplau and Perlman (1982), who described loneliness as the unpleasant experience that occurs when an individual's social network is deficient either qualitatively or quantitatively. The multidimensional view is espaused by Hsu, Hailey, and Range (1987), who described emotional loneliness (resulting from the absence of close personal attachments) as distinct from social loneliness (resulting from the absence of a social network). Blai (1989) suggested a similar distinction. On the basis of available research, it appears that loneliness is a multidimensional construct that can be reliably measured with a unidimensional scale, presumably because there is so much overlap in the various dimensions. The following definition provided by Rook (1984) is consistent with both sides of the dimensional issue: "Loneliness is defined as an enduring condition of emotional distress that arises when a person feels estranged from, misunderstood, or rejected by others and/or lacks appropriate social partners for desired activities, particularly activities that provide a sense of social integration and opportunities for emotional intimacy" (p. 1391).

All these definitions imply the same motivational state. Lonely people believe that they feel so bad because of insufficient interpersonal relationships. The insufficiency may be quantitative (e.g., too few friends), qualitative (e.g., no deeply intimate relationships), or both. In all cases, the dominant social motive is one of approach. Lonely people want more contacts, whereas shy people want to avoid social situations.

Approximately 26% of the population are lonely (Bradbum, 1969). In a more recent sample of undergraduate college students, Revenson (1981) reported that 51% sometimes felt lonely and 11% felt lonely often or most of the time. When they did feel lonely, 37% reported the intensity of their loneliness as severe. At any given time, one fourth of Americans feel painfully lonely (Ryan & Patterson, 1987). Adolescents are by far the loneliest subgroup of the population (Brage, Meredith, & Woodward, 1993; Ryan & Patterson, 1987). Loneliness has been considered to be distinct from aloneness, solitude, and grief (Ryan & Patterson, 1987). Like shyness, loneliness has a cognitive component (thinking one is separate and isolated from others), an affective component (negative feelings of sadness, anger, and depression), and a behavioral component (actions such as avoiding social contacts; Blai, 1989). It is interesting that the major features of a lonely person are a subset of the characteristic features of a depressed person (Horowitz et al., 1982).

Antecedents of Loneliness

Shyness

Shyness may lead to loneliness and thereforecan be seen as a causal antecedent. Many researchers have reported a positive correlation between

shyness and loneliness (e.g., Anderson & Harvey, 1988; Kalliopuska & Laitinen, 1991; Stephan, Fäth, & Lamm, 1988; Zimbardo, 1977). As one may expect because of its close relationship with shyness, social anxiety has also been found to be related to loneliness (Anderson & Harvey, 1988; Bruch, Kaflowitz, & Pearl, 1988; Neto, 1992). Jones, Rose, and Russell (1990) reported correlations between shyness and loneliness ranging from .40 to .51.

Cheek and Busch (1981) provided evidence that shyness causes loneliness. In their study, undergraduates completed a trait measure of shyness and a state measure of loneliness at both the beginning and the end of a spring semester course in introductory psychology. Although loneliness scores declined for both shy and nonshy individuals from the beginning to the end of the semester (presumably owing to habituation to the newness of the semester), shy participants were significantly lonelier than nonshy ones at both time periods. The findings were taken to indicate that both social situations, particularly novel ones, and personality characteristics, particularly shyness, contribute to the amount of loneliness an individual may experience.

The strong relationship between shyness and loneliness suggests that the two also share some causal antecedents. A review of the literature reveals that they do, indeed, share features that may contribute to their etiology-namely, anxiety, poor social skills, maladaptive attributional styles, and lack of social networks (e.g., loss of intimates).

High Anxiety (Especially Social)

A strong relationship has been found between loneliness and anxiety (Jones et al., 1990; Moore & Schultz, 1983; Ryan & Patterson, 1987), particularly social anxiety (Moore and Schultz, 1983; Neto, 1992). Moore and Schultz (1983) reported significant correlations between loneliness and both state and trait anxiety. As is usually the case in correlational studies, the direction of causality between loneliness and social anxiety is unclear. However, the results of Moore and Schultz (1983) indicated that high social anxiety is one factor that interferes with the ability to initiate and maintain contacts with others, resulting in loneliness.

Poor Social Skills

A great deal of attention has been devoted to the relationship between loneliness and social skills. As one would expect, lonely people are less socially skilled (Horowitz et al., 1982; Inderbitzen-Pisuruk, Clark, & Solano, 1992; Kalliopuska & Laitinen, 1991; Moore & Schultz, 1983; Stephan et al., 1988), display more withdrawn and inhibited social behaviors (Renshaw & Brown, 1993; Rubin, LeMare, & Lollis, 1990), are less willing

to take social risks (Moore & Schultz, 1983), and are less willing to assert their rights to others (Bruch et al., 1988).

Some researchers have explored the direction of causation between loneliness and poor social skills, with fairly consistent results. For instance, Renshaw and Brown (1993) conducted a 1-year longitudinal study of children and found that withdrawn social behavior was a significant predictor of concurrent and future loneliness. Their interpretation was that possession of poor social skills lessens the ability to create needed friendship networks, a condition conducive to loneliness. Rubin et al. (1990) reported similar results. Moore and Schultz (1983) replicated these findings with an adolescent sample. They found that the low social risk-taking characteristic of lonely adolescents impedes initiation of social contacts. Peplau and Perlman (1979) made the following clear statement on the matter: "Individual characteristics that make it difficult for a person to establish or maintain satisfactory relationships may increase the likelihood of loneliness" (p. 103).

Lack of Social Networks-Loss of Intimates

Blai (1989) reported two additional and interrelated conditions that can lead to loneliness. One factor is the feeling of not belonging to a community; the other is the absence of an attachment figure. He also cited specific social situations that can Iead to loneliness such as the ending of a marriage, friendship breakups, unemployment, retirement, imprisonment, and hospitalization. Both of the identified factors have empirical support. Loneliness has been linked to many facets of community involvement and acceptance, such as deficits in quality and quantity of social networks (Levin & Stokes, 1986), dissatisfaction with social contacts and with a steady partner (Ekkehard et al., 1988), and low peer acceptance with few or no friendships in adolescence (Renshaw & Brown, 1993). In fact, Levin and Stokes (1986) reported that lack of social networks partially mediated the relationship between introversion and loneliness.

Kivett (1979) found that inadequate transportation and unavailability of organized social activity were among the best predictors of loneliness in older adults. Inadequate transportation was also found by Berg, Mellstrom, and Persons (1981, cited in Ryan & Patterson, 1987) to be a correlate of loneliness, presumably because it has implications for the ability to maintain social contacts. Patients with chronic obstructive pulmonary disease and their caregivers have reported heightened feelings of loneliness as a result of the social separation that the disease causes for both (Keele-Card, Foxall, & Barron, 1993).

Townshend (1955) found that loneliness in old age is related more strongly to desolation, defined as recent separation from a loved one, than to isolation. Such a loss, whether due to death or divorce, can be devas-

tating to one's psychological well-being. Both Townshend (1955) and Kivett (1979) listed widowhood among the conditions most related to loneliness in older adults.

Consequences of Loneliness

The consequences of loneliness, like those of shyness, are numerous, ranging from relatively minor to severely debilitating, and a discussion is beyond the scope of this chapter. Interested readers may consult useful discussions by Blai (1989), Peplau and Goldston (1984), and Peplau and Perlman (1982).

Loneliness also may serve as a factor in depression (e.g., G. W. Brown & Harris, 1978; Joiner, in press; Krietman, 1977). In the following section, we focus on depression, discussing its antecedents (including shyness and loneliness) and consequences.

DEPRESSION

> **If there is hell upon earth, it is to be found in a melancholy man's heart.**
> **(From** The Anatomy of Melancholy, **1621 by Robert Burton [1577-1640], English clergyman.)**

Of the psychological problems discussed in this chapter, depression is the most severe and the most debilitating. Approximately 15% of the U.S. population show significant depressive symptoms at any given time (Secunda, 1973). Depression is a dysphoric mood state accompanied by a loss of enthusiasm, a general slowing of mental and physical activity, and a set of negative cognitive distortions (e.g., Beck, 1976). Other features include anger (Quiggle, Garber, Panak, & Dodge, 1992), anxiety, and unassertiveness (Nezu, Nezu, & Nezu, 1986). Although depression is related to loneliness and shyness (rs = .42 and .30, respectively; Anderson & Harvey, 1988), the three conditions are considered to be separate entities with somewhat different characteristics (Anderson & Harvey, 1988; Seligson, 1983; Weeks, Michela, Peplau, & Bragg, 1980; Weiss, 1973). For instance, loneliness is characterized by the emotion of longing, shyness by anxiety and embarrassment, and depression by sadness and anger. The lonely individual attempts to alleviate loneliness by forming relationships, whereas the depressed individual surrenders to the distress (Weiss, 1973). The shy individual is motivated to avoid social situations. All three constructs are stable across time (e.g., Plomin & Daniels, 1986; Weeks et al., 1980).

A review of the voluminous depression literature reveals several primary antecedents. Among these are shyness and loneliness, lack of social support, self-focusing, maladaptive attributional style, and, perhaps most

important, cognitive distortions. Following is a discussion of the various etiological pathways to depression.

Antecedents of Depression

Shyness and Loneliness

Certainly, shyness, loneliness, and depression have much in common. All are associated with higher than normal levels of anxiety. As we noted previously concerning shyness and loneliness, all are associated with poor social networks and a disproportionately high attendance to negative information. These similarities are more than simple coincidence; there are causal links among the conditions.

Many researchers have found a link between depression and shyness (Alfano, Joiner, Perry, & Metalsky, 1994; Anderson & Arnoult, 1985a, 1985b; Anderson & Harvey, 1988; Traub, 1983) as well as between depression and loneliness (Andersson, 1985; Jackson & Cochran, 1991; Mullins & Dugan, 1990; Yang & Clum, 1994). Although some consider neither loneliness nor depression to be a direct cause of the other (Weeks et al., 1980), others have found that lonely and isolated people tend to be vulnerable to depression (Brown & Harris, 1978; Krietman, 1977; Rich & Bonner, 1987), that loneliness at the beginning of a semester predicted depression later in the semester (Rich & Scovel, 1987), and that experiencing feelings of loneliness at one point in time is significantly related to depression 3 years later (Green et al., 1992).

Cognitive Complexity, Attention to Negative Information, and Self-Focusing

Several additional cognitive phenomena are associated strongly enough with depression to deserve special mention. Depressed individuals, especially those who are moderately depressed, are highly motivated to process attributional information (Flett, Pliner, & Blankenstein, 1989; Kammer, 1983, 1984; Quiggle et al., 1992), particularly negative information (Weiner, 1985). This pattern holds for both hypothetical (McCaul, 1983) and real failures (Kammer, 1984) and for failures in achievement (Kammer, 1983) and interpersonal arenas (Rich & Bonner, 1987). According to Mullins, Seigel, and Hodges (1985), although a group of depressed children generated as many relevant solutions to hypothetical interpersonal problems as did nondepressed children, the depressed group generated more irrelevant solutions as well. Weary et al. (1993) found this effect, even when the attribution task involved attributions other than self-attributions. These findings are consistent with the reasoning of Pittman and Pittman (1980), who suggested that lack of control motivates attributional thinking. It stands to reason (and has been demonstrated empire

ically by Kaslow, Rehm, Pollack, & Siegel, 1988) that depressed individuals have chronic feelings of uncontrollability.

Another cognitive phenomenon associated with depression is that depressed individuals disproportionately attend to negative information in general (Quiggle et al., 1992). Hammen and Zupan (1984) found that depressed children, compared with nondepressed children, endorsed and recalled more negative and fewer positive self-referent words. Depressed individuals also were found to espouse a hostile attributional bias, perceiving a hostile intent in the actions of others (Quiggle et al., 1992).

Depressed people also engage in more self-focused thought in the face of negative events than nondepressed people. Ingram, Cruet, Johnson, and Wisnicki (1988) reported a positive relationship between the amount of self-focus and negative affect. There is even evidence that depressed individuals avoid self-focus in the face of success (Pyszczynski & Greenberg, 1986), unfortunately suggesting that depressed individuals are made deeply and personally uncomfortable by the idea that they have done a good thing. Pyszczynski and Greenberg (1986) stated that this self-focusing plays an important role in the development and maintenance of depression and that self-focusing can explain, at least in part, the motivational and performance deficits associated with depression.

Given the tendency for depressed individuals to engage in more attributional processing, and for that processing to be not only negative in general but also negatively self-focused, it is easy to see how these factors work together in maintaining a pernicious depressogenic attributional style that could be both the cause of the depression and a maintaining factor. Quiggle et al. (1992) summed up their findings, as well as the findings of several other researchers, in the following manner:

> Taken together, these findings depict a depressive cognitive pattern of attending to negative cues in the environment, interpreting the negative events as being due to global and stable factors, either of the world or of the self, generating irrelevant means of solving problems, expecting to be ineffective in changing the situation to a more desirable one, and ultimately interacting less with others. (p. 222)

Social Support

As in the research on loneliness, much attention has been given to the role of social support in the maintenance and etiology of depression. Depressed individuals report having fewer social contacts and a less self-affirming social environment, are likely to be less sociable and more interpersonally submissive (McCullough et al., 1994), and report a lack of confiding relationships (Eisemann, 1985). In fact, lack of close, confiding relationships is a well-established vulnerability factor for depression (Bebbington, Sturt, Tennant, & Hurry, 1984; G. W. Brown & Harris, 1978).

Depressive symptoms are also associated with loneliness, social isolation, retirement, and loss of close partners or relatives (Müller-Spahn & Hock, I994), all conditions in which an individual's social networks are compromised. In line with other research that has shown an increased risk of depression in caregivers of patients with Alzheimer's disease (Crook & Miller, 1985; Eisdorfer, Kennedy,Wisnieski, & Cohen, 1983), George and Gwyther (1984, cited in Kiecolt-Glaser et al., 1987) found that the caregivers of patients with Alzheimer's disease reported decreased wellbeing when their caregiving interfered with their ability to maintain an active social life. Conversely, Rich and Bonnet (1987) showed that social support, especially family support, served as a buffer on the effects of life stress on depression. The reality that humans are social animals is reflected in the debilitating effects of the removal of social support and in the buffering effects of its presence.

An objective social deficit is not the only aspect of social support that has implications for vulnerability to depression. An individual may experience dejection if his or her expectations for social support are greater than the level that is realized. Even an ample supply of social support can be seen as a deficit if one's expectations are too high. Indeed, vulnerability to depression is associated with abnormally high expectations for support (Beck, Rush, Shaw, & Emery, 1979) and an unexpected lack of support in times of crisis (Neeleman & Power, 1994).

Regarding the role of social support in the etiology of depression, Eisemann (1985) found that, prior to a depressive episode, depressed patients reported fewer activities involving other people than did individuals who did not become depressed. Bonner and Rich (1987; Rich & Bonnet, 1987) have provided evidence that social support moderates the relation ship between life stress and depression, and Bamett and Gotlib (1988) showed that, even when the effects of concurrent symptoms are controlled, low social integration may be involved in the etiology of depression. Leary (1990) also concluded that, although not all depression is caused by social exclusion, social exclusion generally causes depression.

Consequences of Depression

The consequences of depression in everyday life are too numerous to mention. They range from impaired job performance to suicide to aggression. Interested readers are referred to any current textbook on abnormal psychology (e.g., Barlow & Durand, 1995). However, one potential consequence of particular relevance to the current chapter is that depression may lead to loneliness and even shyness. Although depression is more likely to be caused by loneliness than the reverse, it is possible that a depressive reaction to a noninterpersonal stressor (e.g., job loss, financial problems) will put a strain on interpersonal relationships and lead to lone-

liness. In fact, Essex, Klein, Lohr, and Benjamin (1985) and Young (1982) have suggested that the cognitive negativity associated with depression may make the negative aspects of an individual's interpersonal relationships more salient, leading the individual to feel lonely. Persistent loneliness may cause one to developa strained interpersonal style, which may ultimately lead to shyness.

TREATMENT OF SHYNESS, LONELINESS, AND DEPRESSION

Shyness

The treatment of shyness, loneliness, and depression should attack the underlying causes of each condition. Therefore, according to the material presented in this chapter, shyness may be especially amenable to treatments that lower feelings of anxiety and increase social skills. The treatment literature on shyness is consistent with these suggestions. For instance, Girodo, Dotzenroth, and Stein (1981) suggested that social skills training may be effective for overcoming shyness. Their contention is not that shy individuals lack social skills but rather that they need to be shown that successful social outcomes are contingent on their ability. Of course, social skills training would add to one's repertoire of social abilities; however, as Girodo et al. suggested, awareness that the application of these abilities can produce successful interpersonal exchanges can increase one's self-confidence and self-esteem while lowering social anxiety. Another suggestion for the treatment of shyness includes a combination of social skills training with cognitive restructuring and systematic desensitization (Cheek & Melchior, 1990).

Kelly and Keaten (1992) addressed the effectiveness of a behavioral modification program developed at Pennsylvania State University (PSU) known as the PSU Reticence Program. The program was designed as a treatment of reticence; individuals who are reticent avoid social situations because they feel unable to perform competently. The program does not directly attempt to reduce feelings of anxiety or apprehension in interpersonal situations. Rather, it focuses on changing reticent behavior through goal setting. Under the specific instruction that individuals adapt to the listener and take his or her perspective (an act usually omitted by shy, lonely, and depressed individuals), participants set goals, make specific plans for goal completion, and evaluate their performance. Kelly and Keaten (1992) showed the PSU Reticence Program to be more effective in reducing self-reported shyness and communication apprehension than either no treatment at all (a control group) or a performance-based public speaking course.

Loneliness

The literature on the treatment of loneliness indicates the effectiveness of training in social skills and cognitive restructuring and of providing situations that encourage the formation of friendship bonds (Blai, 1989; Brage et al., 1993; Seligson, 1983; Weeks, 1994). Because lonely individuals tend to have poor social skills (Chelune, Sultan, & Williams, 1980; Horowitz et al., 1982), teaching them to be more assertive (Blai, 1989), encouraging them to take social risks (a behavior that lonely individuals avoid; Moore & Schultz, 1983), and increasing their repertoire of appropriate interpersonal skills may prove useful in reducing their loneliness (Seligson, 1983; Weeks, 1994).

As mentioned earlier in this chapter, lonely individuals evince a negative pattern of thinking, both about themselves and about the intentions of others. For this reason, cognitive therapy may relieve the condition of loneliness. Beck et al. (1979) suggested that modification of dysfunctional beliefs and self-defeating thought patterns is an effective treatment for loneliness. Other researchers have concurred with this strategy (Blai, 1989; Brage et al., 1993; Rich & Bonnet, 1987). However, cognitive therapy should target the alleviation of loneliness and not simply make one cognitively adept at coping with the problem. Therapy should not assist in the endurance of an unwanted problem but rather in the mitigation of it (e.g., Rook, 1984).

One of the most cited methods of reducing loneliness is establishing an environment that encourages the development of social contacts. Specifically, interventions should foster social support (Brage et al., 1993), provide enhanced opportunities for social contacts (Blai, 1989), and be directed at improving the lonely individual's links with others by providing settings where friendships may be easily formed (Weeks, 1994). Loneliness in older adults, therefore, could be somewhat relieved by placement in a residential setting where the individual's social network is facilitated by the proximity of neighbors and the establishment of apartment-ponsored activities (Mullins & Dugan, 1990). Seligson (1983) added that these activities should be noncompetitive in nature, such as volunteer work in hospitals and schools or perhaps group therapy, which provides multiple contacts with peers.

In addition to treatments that focus on loneliness per se, the implementation of a shyness clinic has been a suggestion for combating loneliness (Weeks, 1994). Because shyness serves as an antecedent to loneliness, an effective shyness clinic could also prevent loneliness. Of course, not everyone who is lonely became so because of preexisting shyness. However, the strong relationship between shyness and loneliness suggests that any treatment that is effective in reducing shyness should be examined for possible value as a treatment for loneliness.

Finally, research from several domains has shown that the physical structure of living environments (e.g., dormitories) has a significant impact on the frequency and quality of social interactions (Baum & Davis, 1980; Evans, Lepore, & Schroeder, 1996).

Depression

Because depression is considered the worst problem of the three discussed in this chapter, it follows that greater attention has been devoted to its treatment. Like the proposed treatments for shyness and loneliness, the proposed treatments for depression are consistent with the causes described in this chapter. Cognitive therapies, social skills training, and additional social support are most often cited for the alleviation of depression. Drug therapies are also a viable option, although, as we show, they are in some instances inferior to therapies that correct the distorted cognitions so prevalent in depressed patients.

Although they are not widely supported with empirical data, social support (Rich & Bonner, 1987) and social skills training (Bellack, Hersen, & Himmelhoch, 1980) have been proposed as treatments to depression. Rich and Bonner (1987) put forth the reasonable assertion that for those whose depression is at least partially caused by the lack of a social support network or the lack of social skills, group therapy may be especially useful. In the surroundings of a group, a social network is supplied, as is the opportunity both to learn and to apply newly acquired interpersonal skills.

By far the most common problem area that is targeted in treating depressed patients is their pronounced tendency toward distorted cognitions. Many researchers have advocated the use of therapies that revise the maladaptive nature of depressed individuals' attributions (Abramson, Seligman, & Teasdale, 1978; Anderson & Amoult, 1985a; Beck et al., 1979; Foersterling, 1985; Helm, 1984; Miller & Norman, 1981). Especially important to such cognitive therapies is the dimension of control (Abramson et al., 1978; Anderson & Amoult, 1985a; Anderson et al., 1994; Bandura, 1977; Beck et al., 1979). Firth-Cozens and Brewin (1988) found that both interpersonal therapy and cognitive-behavioral therapy had a significant impact on attributions in general but that the greatest impact was on the controllability dimension.

The usefulness of therapies that implement changes in the depressed individual's attributional style is clear. For instance, the effectiveness of psychotherapy does not differ from the effectiveness of psychotherapy combined with medication (Seiigman, 1995). In addition, cognitive therapy rivaled antidepressant medication (i.e., imipramine) in the alleviation of depressive symptoms and resulted in a significantly lower dropout rate (Rush, Beck, Kovacs, & Hollon, 1977).

Rich and Bonner (1989) also suggested that because depression is a

multidimensional problem, it should be treated with a multimodal strategy. The assessment of depression should be broad and able to individualize the root cause of an individual's depression. Therapy should then be tailored to the particular deficiency, whether it be the cultivating of interpersonal skills or the provision of an environment conducive to social bonds.

CONCLUSION

We have attempted to integrate the vast literatures on shyness, loneliness, and depression at several different levels. The overlap in causal factors as well as in treatments reflects the overlap between these three everyday problems in living. Additional research is needed on numerous aspects of our model of shyness, loneliness, and depression. For instance, additional work on the causal mechanisms involved in the link between loneliness and depression is needed. It also is important to examine these relationships for different subpopulations, such as adults, adolescents, and children. Great strides have been made in the last 20 years in understanding and treating depression, loneliness, and shyness, but a complete understanding is still some distance away. We hope that our synthesis aids others in the journey toward better understanding.

REFERENCES

Abramson, L. Y., Seligman, M. E. P., & Teasdale, J. D. (1978). Learned helplessness in humans: Critique and reformulation. **Journal of Abnormal Psychology**, 87, 49-74.

Alfano, M. S., Joiner, T. E., Perry, M., & Metalsky, G. I. (1994). Attributional style: A mediator of the shyness-depression relationship? **Journal of Research in Personality**, 28, 287-300.

Anderson, C. A., Anderson, K. B., & Deuser, W. E. (1996). Examining an affective aggression framework: Weapon and temperature effects on aggressive thoughts, affect, and attitudes. **Personality and Social Psychology Bulletin**, 22, 366-376.

Anderson, C. A., & Arnoult, L. H. (1985a). Attributional models of depression, loneliness, and shyness. In J. Harvey & G. Weary (Eds.), **Attribution: Basic issues and applications** (pp. 235-279). New York: Academic Press.

Anderson, C. A., & Arnoult, L. H. (1985b). Attributional style and everyday problems in living: Depression, loneliness, and shyness [Special issue: Depression]. **Social Cognition**, 3, 16-35.

Anderson, C. A., & Harvey, R. J. (1988). Discriminating between problems in living: An examination of measures of depression, loneliness, shyness, and social anxiety. **Journal of Social and Clinical Psychology**, 6, 482-491.

Anderson, C. A., Jennings, D. L., & Arnoult, L. H. (1988). Validity and utility of the attributional style construct at a moderate level of specificity. **Journal of Personality and Social Psychology**, 55, 979-990.

Anderson, C. A., Miller, R. S., Riger, A. L., Dill, J. C., & Sedikides, C. (1994). Behavioral and characterological attributional styles as predictors of depression and loneliness: Review, refinement, and test. **Journal of Personality and Social Psychology**, 66, 549-558.

Andersson, L. (1985). Loneliness, birth order and social loss among a group of elderly women. **Journal of Psychosomatic Research**, 29, 33-42.

Andersson, L. (1992). Loneliness and perceived responsibility and control in elderly community residents. **Journal of Social Behavior and Personality**, 7, 431-443.

Arkin, R. M., Appelman, A. J., & Burger, J. M. (1980). Social anxiety, self-presentation, and the self-serving bias in causal attribution. **Journal of Personality and Social Psychology**, 38, 23-35.

Aronson, E., & Osherow, N. (1980). Cooperation, prosocial behavior, and academic performance: Experiments in the desegregated classroom. In L. Bickman (Ed.), **Applied social psychology annual** (Vol. 1, pp. 163-196). Beverly Hills, CA: Sage.

Aronson, E., Stephan, C., Sikes, J., Blaney, N., & Snapp, M. (1978). **The jigsawy classroom.** Beverly Hills, CA: Sage.

Bandura, A. (I977). Self-efficacy: Toward a unifying theory of behavioral change. **Psychological Review**, 84, 191-215.

Barlow, D. H., & Durand, V. M. (1995). **Abnormal Psychology: An integrative approach.** Pacific Grove, CA: Brooks/Cole.

Barnett, P. A., & Gotlib, I. H. (1988). Psychosocial functioning and depression: Distinguishing among antecedents, concomitants, and consequences. **Psychological Bulletin**, 104, 97-126.

Baum, A., & Davis, G. E. (1980). Reducing the stress of high-density living: An architectural intervention. **Journal of Personality and Social Psychology**, 38, 471-481.

Bebbington, P., Sturt, E., Tennant, C., & Hurry, J. (1984). Misfortune and resilience: A community study of women. **Psychological Medicine**, 14, 347-363.

Beck, A. T. (1976). **Cognitive therapy and the emotional disorders.** New York: International Universities Press.

Beck, A. T., Rush, A. J., Shaw, B., & Emery, G. (1979). **Cognitive therapy of depression.** New York: Guilford Press.

Bell, I. R., Jasnoski, M. L., Kagan, J., & King, D. S. (1990). Is allergic rhinitis more frequent in young adults with extreme shyness? A preliminary survey. **Psychosomatic Medicine**, 52, 517-525.

Bellack, A. S., Hersen, M., & Himmelhoch, J. (1980). Social skills training for depression: A treatment manual. **Catalog of Selected Documents in Psychology**, 10, 92.

Berkowitz, L. (I993). **Aggression: Its causes, consequences, and control.** New York: McGraw-Hill.

Blai, B. (1989). Health consequences of loneliness: A review of the literature. **Journal of American College Health,** 37, 162-167.

Bonnet, R. L., & Rich, A. R. (1987). Toward a predictive model of suicidal ideation and behavior: Some preliminary data in college students. **Suicide and Life Threatening Behavior,** 17, 50-63.

Btadburn, N. (1969). **The structure of psychological well-being.** Chicago: Aldine.

Brage, D., Meredith, W., & Woodward, J. (1993). Correlates of loneliness among Midwestern adolescents. **Adolescence,** 28, 685-693.

Brodt, S. E., & Zimbardo, P. G. (1981). Modifying shyness-related social behavior through symptom misatttibution. **Journal of Personality and Social Psychology,** 41, 437-449.

Brown, B. (1974, April 29). Depression roundup. **Behavior Today,** 5, 117.

Brown, G. W., & Harris, T. (1978). Social origins of depression: A study of psychological disorder in women. New York: Free Press.

Btuch, M. A., Kaflowitz, N. G., & Pearl, L. (1988). Mediated and nonmediated relationships of personality components to loneliness. **Journal of Social and Child Psychology,** 6, 346-355.

Buss, A. (1980). **Self-consciousness and social anxiety.** New York: Freeman.

Buss, A. (1984). A conception of shyness. In J. A. Daly & J. C. McCroskey (Eds.), **Avoiding communicution: Shyness, reticence, and communicution apprehension** (pp. 39-49). Beverly Hills, CA: Sage.

Cheek, J. M., & Busch, C. M. (1981). The influence of shyness on loneliness in a new situation. **Personality and Social Psychology Bulletin,** 7, 572-577.

Cheek, J. M., & Melchior, L. A. (1990). Shyness, self-esteem, and self-consciousness. In H. Leitenbetg (Ed.), **Handbook of social evaluation anxiety** (pp. 47-82). New York: Plenum Press.

Cheek, J. M., Melchiot, L. A., & Catpentieti, A. M. (1986). Shyness and self-concept. In L. M. Hattman & K. R. Blankstein (Eds.), **Perception of self in emotional disorder and psychotherapy** (pp. 113-131). New York: Plenum Press.

Cheek, J. M., & Watson, A. K. (1989). The definition of shyness: Psychological imperialism or construct validity? **Journal of Social Behavior and Personality,** 4, 85-95.

Chelune, G., Sultan, E, & Williams, C. (1980). Loneliness, self-disclosure and interpersonal effectiveness. **Journal of Counseling Psychology,** 27, 462-468.

Crook, T. H., & Millet, N. E. (1985). The challenge of Alzheimet's disease. **American Psychologist,** 40, 1245-1250.

Eisdorfer, C., Kennedy, G., Wisnieski, W., & Cohen, D. (1983). Depression and attributional style in families coping with the stress of caring for a relative with Alzheimet's disease. **Gerontologist,** 23, 115-116.

Eisemann, M. (1985). Depressed patients and non-psychiatric controls: Discrimi-

nant analysis on social environment variables. **Acta Pyschiatrica Scandinavica,** 71, 495-498.

Eisenberg, N., Fabes, R. A., & Murphy, B. C. (1995). Relations of shyness and low sociability to regulation and emotionality. **Journal of Personality and Social Psychology,** 68, 505-517.

Ekkehard, S., Fäth, M., & Lamm, H. (1988). Loneliness as related to various personality and environmental measures: Research with the German adaptation of the UCLA Loneliness Scale. **Social Behavior and Personality,** 16, I69- 174.

Essex, M. J., Klein, M, H., Lohr, M. J., & Benjamin, L. S. (1985). Intimacy and depression in older women. **Psychiatry,** 48, 159-178.

Evans, G. W., Lepore, S. J., & Schroeder, A. (1996). The role of interior design elements in human responses to crowding. **Journal of Personality and Social Psychology,** 70, 41-46.

Fat **is,** M. (1983). Degree of shyness and self-reported physiological, behavioral, and cognitive reactions. **Psychological Reports,** 52, 351-354.

Festinger, L., Schachter, S., & Back, K. (1950). **Social pressures in informal groups: A study of human factors in housing.** Stanford, CA: Stanford University Press.

Firth-Cozens, J., & Brewin, C. R. (1988). Attributional change during psychotherapy. **British Journal of Clinical Psychology,** 27, 47-54.

Flett, G. L., Pliner, P., & Blankenstein, K. R. (1989). Depression and components of attributional complexity. **Journal of Personality and Social Psychology,** 56, 757-764.

Foersterling, F. (1985). Attributional retraining: A review. **Psychological Bulletin,** 98, 495-512.

Geen, R. G. (1979). Effects of being observed on learning following success and failure experiences. **Motivation and Emotion,** 3, 355-371.

Geen, R. G. (1990). **Human aggresion.** Pacific Grove, CA: Brooks/Cole.

Girodo, M., Dotzenroth, S. E., & Stein, S. J. (1981). Causal attribution bias in shy males: Implications for self-esteem and self-confidence. **Cognitive Therapy and Research,** 5, 325-338.

Granger, D. A., Weiss, J. R., & Kauneckis, D. (1994). Neuroendocrine reactivity, internalizing behavior problems, and control-related cognitions in clinic-referred children and adolescents. **Journal of Abnormal Psychology** , 103, 259-266.

Green, B. H., Copeland, J. R. M., Dewey, M, E., Sharma, V, Saunders, P. A., Davidson, I. A., Sullivan, C., & McWilliam, C. (1992). Risk factors for depression in elderly people: A prospective study. **Acta Psychiatrica Scandinavica,** 86, 213-217.

Hammen, C., & Zupan, B. A. (1984). Self-schemas, depression, and social problem solving and social competence in preadolescents: Is inconsistency the hobgoblin of little minds? **Cognitive Therapy and Research,** 9, 685-702.

Hartmann, E. (1973). Sleep requirement: Long sleepers, short sleepers, variable sleepers, and insomniacs. **Psychosomatics,** 14, 95-103.

Helm, S. B. (1984). Nursing care of the depressed patient: A cognitive approach. **Perspectives in Psychiatric Care,** 22, 100-107.

Horowitz, L. M., French, R., & Anderson, C. A. (1982). The prototype of a lonely person. In L. Peplau & D. Perlman (Eds.), **Loneliness: A sourcebook of current theory, research, and therapy** (pp. 183-205). New York: Wiley.

Hsu, L. R., Hailey, B. J., & Range, L. M. (1987). Cultural and emotional components of loneliness and depression. **Journal of Psychology**, 121, 61-70.

Inderbitzen-Pisuruk, H., Clark, M. L., & Solano, C. H. (1992). Correlates of loneliness in midadolescence. **Journal of Youth and Adolescence,** 21, 151 - 167.

Ingram, R. E., Cruet, D., Johnson, B. R., & Wisnicki, K. S. (1988). Self-focused attention and depression: Self-evaluation, affect, and life stress. **Motivation and Emotion,** 9, 381-389.

Jackson, J., & Cochran, S. D. (1991). Loneliness and psychological distress. **Journal of Psychology,** 125, 257-262.

Johnson, J. M., Petzel, T. P., & Jonson, J. E. (1991). Attributions of shy persons in affiliation and achievement situations. **Journal of Psychology,** 125, 51-58.

Joiner, T. E. (in press). Shyness as diathesis, low social support as stress, and loneliness as mediator: Testing an interpersonal-personality view of vulnerability to depression. **Journal of Abnormal Psychology.**

Jones, W. H., Rose, J., & Russell, D. (1990). Loneliness and social anxiety. In H. Leitenbetg (Ed.), **Handbook of social evaluation anxiety** (pp. 247-266). New York: Plenum Press.

Kagan, J., Resnick, J. S., & Snidman, N. (1988, April). Biological bases of childhood shyness. **Science,** 240, 167-171.

Kagan, J., & Snidman, N. (1991). Temperamental factors in human development. **American Psychologist,** 46, 856-862.

Kagan, J., Snidman, N., & Arcus, D. (1993). On the temperamental categories of inhibited and uninhibited children. In K. H. Rubin & J. B. Asendorpf (Eds.), **Social withdrawl, inhibition, and shyness** (pp. 19-28). Hillsdale, NJ: Erlbaum.

Kalliopuska, M., & Laitinen, M. (1991). Loneliness related to self-concept. **Psychological Reports,** 69, 27-34.

Kammer, D. (1983). Depression, attributional style, and failure generalization. **Cognitive Therapy and Research,** 7, 413-423.

Kammer, D. (1984). Attributional processing style differences in depressed and nondepressed individuals. **Motivation and Emotion,** 8, 211-220.

Kaslow, N. J., Rehm, L. R, Pollack, S. L., & S iegel, A. W. (1988). Attributional style and self-contro1 behavior in depressed and nondepressed children and their parents. **Journal of Abnormal Child Psychology,** 16, 163- 175.

Keele-Card, G., Foxall, M. J., & Barron, C. R. (1993). Loneliness, depression, and social support of patients with COPD and their spouses. **Public Health Nursing,** 10, 245-251.

Kelly, L., & Keaten, J. (1992). A test of the effectiveness of the reticence program at the Pennsylvania State University. **Communication Education,** 41, 361-374.

Kiecolt-Glaser, J. K., Glaser, R., Shuttleworth, E. C., Dyer, C. S., Ogrocki, P., & Speicher, C. E. (1987). Chronic stress and immunity in family caregivers of Alzheimer's disease victims. *Psychosomatic Medicine, 49,* 523-535

Kivett, V. R. (1979). Discriminators of loneliness among the rural elderly: Implications for intervention. *Gerontologist, 19,* 108-115.

Knutson, J. F. & Lansing, C. R. (1990). The relationship between communication problems and psychological difficulties in persons with profound acquired hearing loss. *Journal of Speech and Hearing Disorders, 55,* 656-664.

Kreitman, N. (Ed.). (1977). *Parasuicide*. London: Wiley.

Lahey, B. B. & Carlson, C. L. (1991). Validity of the diagnostic category of attention deficit disorder without hyperactivity: A review of the literature. *Journal of Learning Disabilities, 24,* 110-120.

Larsen, R. J. & Deiner, E. (1987). Affect intensity as an individual difference characteristic: A review. *Journal of Research in Personality, 21*, 1-39.

Lawton, M. P., Powell, Kleban, & Dean (1993). Affect and age: Cross-sectional comparisons of structure and prevalence. *Psychology and Aging, 8*, 165-175.

Leary, M. (1986). Affective and behavioral components of shyness. In W. H. Jones, J. M. Cheek, & S. R. Briggs (Eds.) *Shyness: Perspectives on research and treatment* (pp. 27-38). New York, Plenum Press.

Leary, M. (1990). Responses to social exclusion: Social anxiety, jealousy, loneliness, depression, and low self-esteem. *Journal of Social and Clinical Psychology, 9*, 221-229.

Leary, M., Atherton, S. C., Hill, S., & Hur, C. (1986). Attributional mediators of social inhibition and avoidance. *Journal of Personality, 54*, 704-716.

Lee, M., Zimbardo, P. G., & Bertholf, M. (1977, November). Shy Murderers. *Psychology Today, 11*, 69.

Leitenberg, H. (1990). *Handbook of social and evaluation anxiety*. New York: Plenum.

Levin, I. & Stokes, J. P. (1986). An examination of the relation of individual difference variables to loneliness. *Journal of Personality, 54*, 717-733.

Matheny, A. P., Jr., & Dolan, A. B. (1975). Persons, situations, and time: A genetic view of behavioral change in children. *Journal of Personality and Social Psychology, 32,* 1106-1110.

McCaul, K. D. (1983). Observer attributions of depressed students. *Personality and Social Psychology Bulletin, 9*, 74-82.

McCullough, J. P., McCune, K. J., Kaye, A. L., Braith, J. A., Friend, R., Roberts, W. C., Belyea-Caldwell, S., Norris, S. L. W., & Hampton, C. (1994). Comparison of a community dysthymia sample at screening with a matched group of nondepressed community controls. *Journal of Nervous and Mental Disease, 182*, 402-407.

Miller, I. W. & Norman, W. H. (1981). Effects of attributions for success on the alleviation of learned helplessness and depression. *Journal of Abnormal Psychology, 90*, 113-124.

Mü ller-Spahn, F. & Hock, C. (1994). Clinical presentation of depression in the elderly.

Gerontologist, 40, 10-14.

Moore, D. & Schultz, N. R. (1983). Loneliness at adolescence: Correlates, attributions, and coping. *Journal of Youth and Adolescence, 12*, 95-100.

Mullins, L. C. & Dugan, E. (1990). The influence of depression, and family and friendship relations, on residents' loneliness in congregate housing. *Gerontologist, 30,* 377-384.

Mullins, L. L., Seigel, L. J., & Hodges, K. (1985). Cognitive problem-solving and life event correlates of depressive symptoms in children. *Journal of Abnormal Child Psychology, 13*, 305-314.

Neeleman, J. & Power, M. J. (1994). Social support and depression in three groups of psychiatric patients and a group of medical controls. *Social Psychiatry and Psychiatric Epidemiology, 29*, 46-51.

Neto, F. (1992). Loneliness among Portuguese adolescents. *Social Behavior and Personality, 20*, 15-21.

Nezu, A. M., Nezu, C. M., & Nezu, V. A. (1986). Depression, general distress, and causal attributions among university students. *Journal of Abnormal Psychology, 95*, 184-186.

Peplau, L. A. & Goldston, S. E. (1984). *Preventing the Harmful Consequences of Severe and Persistent Loneliness.* Washington D. C.: U.S. Government Printing Office.

Peplau, L. A. & Perlman, D. (1979). Blueprint for a social psychological theory of loneliness. In M. Cook & G. Wilson (Eds.), *Love and attraction* (pp. 101-110). New York: Pergamon Press.

Peplau, L. A. & Perlman, D. (1982). Perspectives on loneliness. In L. A. Peplau & D. Perlman (Eds.), *Loneliness: A sourcebook of current theory, research, and therapy* (pp. 1-18). New York: Wiley.

Pilkonis, P. A. (1977a). Shyness, public and private, and its relationship to other measures of social behavior. *Journal of Personality, 45*, 585-595.

Pilkonis, P. A. (1977b). The behavioral consequences of shyness. *Journal of Personality, 45*, 596-611.

Pittman, T. S. & Pittman, N. L. (1980). Deprivation of control and the attribution process. *Journal of Personality and Social Psychology, 39*, 377-389.

Plomin, R. & Daniels, D. (1986). Genetics and shyness. In W. H. Jones, J. M. Cheek, & S. R. Briggs (Eds.), *Shyness: Perspectives on research and treatment* (pp. 63-80). New York: Plenum Press.

Plomin, R. & Rowe, D. C. (1979). Genetic and environmental etiology of social behavior in infancy. *Developmental Psychology, 15*, 62-72.

Plomin, R. & Stocker, C. (1989). Behavioral genetics and emotionality. In J. S. Reznick (Ed.), *Perspectives on behavioral inhibition* (pp. 219-240). Chicago: University of Chicago Press.

Pyszczynski, T. & Greenberg, J. (1986). Evidence for a depressive self-focusing style. *Journal of Research in Personality, 20*, 95-106.

Quiggle, N. L., Garber, J., Panak, W. F., & Dodge, K. A. (1992). Social information processing in aggressive and depressed children. *Child Development, 63*, 1305-1320.

Renshaw, P. D. & Brown, P. J. (1993). Loneliness in middle childhood: Concurrent and longitudinal predictors. *Child Development, 64*, 1271-1284.

Revenson, T. A. (1981). Coping with loneliness: The impact of causal attributions. *Personality and Social Psychology Bulletin, 7*, 565-571.

Rich, A. R. & Bonner, R. L. (1987). Causes of depression in college students: A cross-lagged panel correlational analysis. *Psychological Reports, 60*, 27-30.

Rich, A. R. & Bonner, R. L. (1989a). Interpersonal moderators of depression among college students. *Journal of College Student Personnel, 28,* 337-342.

Rich, A. R. & Bonner, R. L. (1989b). Support for a pluralistic approach to the treatment of depression. *Journal of College Student Development, 30*, 426-431.

Rich, A. R. & Scovel, M. (1987). Causes of depression in college students: A crosslagged panel correlation analysis. *Psychological Reports, 60,* 27-30.

Rokeach, M. (1973). *The nature of human values.* New York: Free Press.

Rook, K. (1984). Promoting social bonding: Strategies for helping the lonely and socially isolated. *American Psychologist, 39*, 1389-1407.

Rothbart, M. K. & Derryberry, D. (1981). Development of individual differences in temperament. In M. E. Lamb & A. L. Brown (Eds.), *Advances in developmental psychology* (Vol. 1, pp. 37-86). Hillsdale, JN: Erlbaum.

Rubin, K. H., LeMare, L. J., & Lollis, S. (1990). Social withdrawal in children: Developmental pathways to peer rejection. In S. R. Asher & J. D. Coie (Eds.), *Peer rejection in childhood* (pp. 217-252). Cambridge: Cambridge University Press.

Rush, A. J., Beck, A. T., Kovacs, M., & Hollon, S. (1977). Comparative efficacy of cognitive therapy and pharmacotherapy in the treatment of depressed outpatients. *Cognitive Therapy and Research, 1*, 17-37.

Ryan, M. C. & Patterson, J. (1987). Loneliness in the elderly. *Journal of Gerontological Nursing, 13*, 6-12.

Secunda, S. K. (1973). *Special report, 1973: The depressive disorders.* Washington, D. C.: National Institute of Mental Health.

Seligman, M. E. P. (1995). The effectiveness of psychotherapy: The Consumer Reports study. *American Psychologist,* 50, 965-974.

Seligson, A. G. (1983). The presentation of loneliness as a separate diagnostic category and its disentanglement from depression. *Psychotherapy in Private Practice, 1*, 33-37.

Smith, T. W., Baldwin, M., & Christenson, A. J. (1990). Interpersonal influence as active coping: Effects of task difficulty on cardiovascular reactivity. *Psychopyshiology, 27*, 429-437

Stephan, E., Fä th, M., & Lamm, H. (1988). Loneliness as related to various personality and environmental measures: Research with the German adaptation of the UCLA Loneliness Scale. *Social Behavior & Personality, 16*, 169-174.

Taylor, H. (1836). The Statesman. Chapter 4. As cited in *The Columbia Dictionary of*

Quotations. Columbia University Press, 1993.

Teglasi, H. & Hoffman, M. A. (1982). Causal attributions of shy subjects. *Journal of Research in Personality, 16*, 376-385.

Thomas, A. J. (1984). *Acquired hearing loss: Psychological and psychosocial implications*. London: Academic Press.

Tomkins, S. S. (1963). *Affect, Imagery, Consciousness*. New York: Sage Publishing Company

Townshend, P. (1955). *The Family Life Of Old People*. Baltimore: Penguin Books.

Traub, G. S. (1983). Correlations of shyness with depression, anxiety, and academic performance. *Psychological Reports, 52*, 849-850.

van der Molen, H. T. (1990). A definition of shyness and its implications for clinical practice. In W. R. Crozier (Ed.) *Shyness and embarrassment: Perspectives from social psychology* (pp. 255-285). New York: Cambridge University Press.

Weary, G., Marsh, K.L., Gleicher, F., & Edwards, J.A. (1993). Depression, control motivation, and the processing of information about others. In G. Weary, Gleicher, F., & Marsh, K.L. (Eds.) *Control motivation and social cognition* (pp. 255-287). New York: Springer-Verlag.

Weeks, D. J. (1994). A review of loneliness concepts, with particular reference to old age. *International Journal of Geriatric Psychiatry, 9,* 345-355.

Weeks, D. J., Michela, J. L., Peplau, L. A., & Bragg, M. E. (1980). Relation between loneliness and depression: A structural equation analysis. *Journal of Personality and Social Psychology, 39,* 1238-1244.

Weiner, B. (1985). Spontaneous causal thinking. *Psychological Bulletin, 97*, 74-84.

Weiss, R. S. (1973). Issues in the study of loneliness. In L. A. Peplau & D. Perlman (Eds.), *Loneliness: A sourcebook of current theory, research, and therapy* (pp. 71-80). New York: Wiley.

Yang, B. & Clum, G. A. (1994). Life stress, social support, and problem-solving skills predictive of depressive symptoms, hopelessness, and suicide ideation in an Asian student population: A test of a model. *Suicide and Life Threatening Behavior, 24,* 127-139.

Young, J. E. (1982). Loneliness, depression, and cognitive therapy: Theory and application. In L. A. Peplau & D. Perlman (Eds.), *Loneliness: A sourcebook of current theory, research, and therapy* (pp. 379-405). New York: Wiley.

Zajonc, R. B. (1965). Social facilitation. *Science, 149*, 269-274.

Zimbardo, P. G. (1977). *Shyness: What it is and what to do about it.* Reading, Massachusetts: Addison-Wesley.

Zimbardo, P.G., Pilkonis, P.A., & Norwood, R.M. (1974). *The silent prison of shyness.* (ONR Tech. Rep. No. Z-17). Stanford, CA: Stanford Universiy.