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### Communication Addiction Disorder: Concern over Media, Behavior and Effects

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#### **Abstract**

Recent attention to Internet Addiction Disorder (IAD) raises concerns about conceptualization and etiology of such a syndrome. An alternative syndrome, Communication Addiction Disorder, is proposed. Research describing symptomatology and deleterious effects of too much talking are reviewed which parallel IAD characteristics in several respects. These disorders are then critiqued, as a means to identify problems in the reification of new addiction classifications that, despite their utility in clinical settings, are as yet inadequately conceptualized, theorized, or measured.

### Communication Addiction Disorder: Concern over Media, Behavior and Effects

Growing concern over excessive use of the Internet by individuals has led to a spate of labels, measures, conceptualizations, and treatments (see for review Griffiths, 1998). Such approaches have, however, moved much faster than theoretical consideration, measurement validation, and research into competing etiological explanations and comparable behavioral patterns. Before a general acceptance of Internet Addiction is reified, further reflection is warranted and alternative syndromes should be considered.

#### **Communication Addiction Disorder**

There is a widespread problem that threatens to interfere with people's everyday normal functioning in personal relations and social activities. Research makes clear that a significant portion of the student population exhibits this disorder, and anecdotal and statistical evidence points to a similar proportion in the general population. As is true with many other addictive-type disorders, it is often noticed first and found to be upsetting by one's interactional partners. Moreover, for the growing numbers of people who are able to find social support, meaningful relationships, and entertainment through various Internet-related activities, this other behavior may at some point interfere with those online activities to an extent that it becomes a source of conflict and guilt. This syndrome, of course, is the incessant and seemingly uncontrollable tendency for some people to talk to one another, either one-on-one or in groups. It is suggested that we examine and classify a new syndrome, Communication Addiction Disorder. In the following, a case is presented outlining the evidence to suggest that such a disorder exists. Second, an overview follows of the negative uses to which talk is put and the deleterious effects that talk—even at moderate levels—may have on its users. Third, a general critique of some problems in diagnosing addictive or dependent behavior in the mediated and unmediated realms is outlined, arguing that five major problems must be addressed when considering addictive communication: a focus on media usage per se rather than the specific communication activities for which it is used; questionably appropriate diagnostics imported from non-comparable etiologies of addiction; the need to improve scaling and measurement strategies; and the presumption of superiority for one kind of communication over another. Finally, recommendations for future research are offered

### **Communication Addiction**

While extraversion and sociability are characteristics which, when exhibited appropriately, confer attributions of credibility and may be pro-social, personal experience, history, and literature are replete with anecdotal accounts of people who talk a great deal to negative extents. Terms such as "talk too much," verbose, long-winded, gossipy, dominating, etc., all speak to the notion that auditors devalue others who verbalize beyond normative levels, and that lay interpretations of such behavior result in negative attributions.

While cultural values clearly are mixed over people's frequency and duration of talking, scientific studies present a much more clear-cut profile of the pervasiveness of talking too much, among various populations.

### **Indirect measures.**

Research examining communication reticence (a.k.a. communication apprehension, shyness, etc.) reveal that a good sixteen per cent of randomly sampled college populations may be classified as talk-prone. This finding has been replicated on normal adult populations as well (McCroskey, 1978). While such diagnoses were not part of the original intent of the communication apprehension measure, the inference is as warranted as the communication apprehension diagnosis; the Personal Report of Communication Apprehension originally was scored to separate the most apprehensive (those whose scores fall grater than one standard deviation from the mean) from the least (whose scores fall below one S.D.), and found significant differences between these groups on the self-same scale. By definition, then, 16% of a sample may be considered to be highly communication apprehensive, and 16% its opposite, which we can presume to define abnormally communication-active. Refinements of the scale—short forms, similar to the IAD forms on http://www.netaddiction.com/resources/iaindex.htm—now allow diagnosis using a few key questions and attributing apprehension disorder to certain absolute ranges of scores.

Other assessments and measures more directly assess bi-directional levels of communication attitudes and presumably, verbal behaviors. Research using the originally-neutral Predisposition Toward Verbal Behavior scale (e.g. Mortensen, Arnston, & Lustig, 1977) recently discovered that significantly high scores tended to correspond to peer identification of someone who talks too much (Bostrom & Harrington, 1999), bolstering the approach that at the opposite end of a scale for a chronically low-talker, is a statistically a high-talker, too.

### **Direct Measures.**

In fairness, the above measures were designed to assess negative or neutral syndromes, and they are attitudinal rather than behavioral in nature. Other research efforts, however, have broken ground on classifying more a potentially more disturbing addiction-like syndrome: compulsive communication. McCroskey and Richmond (1995) developed a "talkaholic" scale. "People scoring highly on the 'Talkaholic Scale' are referred to as 'talkaholics,' the name taken as an analog to the compulsive and excessive behavior of 'alchoholics' and 'workaholics'" (McCroskey & Richmond, 1995, p. 40), a similar analogs that are used to describe Internet Addiction (e.g. Anderson, 1999; King, 1996) such "on-lineaholics" (Young, 1998).

These are not benign diagnoses. Abnormal levels of communication orientation have been found to correlate with student success and failure (in some kinds of courses) and with occupational choice (Porter, 1979). A number of studies "suggest that the level of a person's participation during interaction is strongly implicated as a major cue for interpersonal judgments and evaluations, and hence is directly related to group properties such as status and sociometric structure" (Hayes & Meltzer, 1972, p. 539). According to Bostrom and Harrington (1999), compulsive talkers are passed over for promotion. Furthermore, the more talkaholic one is, McCroskey and Richmond (1995) found, the more neurotic s/he is. Another correlate is that compulsive talkers are significantly lower than normals on "inhibition" (Bostrom & Harrington, 1999); this is interesting to note, as King (1996) suggests that the disinhibition of the Internet is one of the factors that makes it so alluring to potential addicts, once again questioning which is the cart and which, the horse.

Additional aspects of communication compulsion suggest that the psychodymanics of addiction are at work. In McCroskey and Richmond's (1995) interviews with compulsive communicators, they found that talkaholics universally recognized that they talked a lot. Many reported that their talkativeness was disruptive to their studies—they got in trouble in classes. Additionally, talkaholics reported that they had been unable to curtail their talkativeness activities. "When asked if they had ever tried to talk less, most indicated they had but many added comments such as 'Yeah, but I can't do it.' 'I can't stop talking.' 'I am driven to talk.'" (p. 48). Interestingly, talkaholism was positively correlated to self-perceived communication competence. This suggests that victims are not themselves aware of the problematic nature of their syndrome, or are in denial. "None of (the subjects) would acknowledge it was a problem...One noted 'I know some who are just like me, they talk too much most of the time" (p. 49). And despite their denial, "their talking is perceived by others as a problem," according to Bostrom and Harrington (1999, p. 73), as is the case with other addictions.

It is instructive to use the "operational definition" for addiction summarized by Griffiths (1998), in his chapter on Internet Addiction, as a litmus test for CAD:

- 1. <u>Salience</u>: talk may be a primary and most important activity to a person. A person may be thinking about what s/he will talk about the next time s/he will be talking (see Berger & Jordan, 1992)
- 2. <u>Mood modification</u>: Some people enjoy talking to one another, and receiving acceptance and liking through such talk is an affectively enhancing activity (Bell & Daly, 1984).
- 3. <u>Tolerance</u>: As discussed in the case of the talkaholic, there seems to be a need among some to talk all the time. An upper limit cannot be established, since some people can (a) talk all their waking hours, (b) stay up talking long past their normal sleep intervals, or even (c) even talk in their sleep (personal conversation, Sandra Walther, 1982-1999, passim).
- 4. <u>Withdrawal symptoms</u>: Again, in the case of the talkaholic, some are uncomfortable when they cannot speak.
- 5. <u>Conflict</u>: As noted, the social partners of talkaholics can readily identify this disturbing behavior, and excessive talk conflicts with other desirable activities such as listening or attending to class material.
- 6. <u>Relapse</u>: Since talkaholism is so tolerated in society and there is as yet no treatment for it, no relapse data are available. As talkaholics have tried unsuccessfully to reduce their speech, there is a high potential for this syndrome to be intractable.

Clearly there is cause for the recognition that some people talk too much and that their talk is out of control. It upsets others, and may have deleterious effects on their social lives based on its sheer excess alone; like Internet Addiction, excessive talk may be harmful on the basis that its very activity leads one to ignore other important aspects of healthy social interaction. Yet, like excessive Internet activity, there are specific activities and functions to which talk is often put, which are also potentially harmful. Before we impugn talk on the basis of its sheer excess among compulsive users, we should examine to what ends talk may be put, to see if there is cause for alarm that it is an activity that draws its users into unseemly and socially undesirable behaviors in its own right. We may find instruction again from the socially unacceptable ills of the Internet,

which include <u>interacting with strangers</u>, <u>identity manipulations</u>, <u>deception</u>, <u>sexual</u> deception and coercion, and flaming.

# **Harmful Effects of Communication**

# **Interacting with strangers**

Despite educational efforts that target even the very young not to do so, numerous people engage in talk with other persons whom they do not even know (Berger & Calabrese, 1975). In this process they tend to reveal personal information and ask questions, manipulate the environment, and even tap into targets' social networks in order to acquire personal information about one another (Berger, Gardner, Parks, Schulman, & Miller, 1976; Cline & Musolf, 1985).

# Questionable identity presentations, or, Can you say Milli Vanilli?

Of course, there are cases in which people make up entirely fictitious identities face-to-face. More chronic, however, are the partial and strategic self-presentations by which people conceal aspects of themselves while enacting other, situationally-demanded affectations. Such modern classics as Dale Carnegie's (1936) How to Win Friends and Influence People and Erving Goffman's (1959) The Presentation of Self in Everyday Life suggested what is now widely accepted: impression management through talk and face to face behavior is a common and expected aspect of social interaction. According to Hogan, Jones, and Cheek (1985), success at intimidating or seducing others through communicative actions is linked to personal and species survival. Almost a decade of research in social psychology focused on Snyder's (1974) construct of "self-monitoring," including its subdimension, "acting ability." Clearly most people are not presenting themselves in their most unguarded, unmanipulated, and nonstrategic fashion, when they talk to one another face to face.

### **Deception**

"The income tax has made liars out of more Americans than golf." (Will Rogers)

It is not golf per se that is a lie, of course, but the discussion of golf and the ego-protection and dominance-seeking function enacted in dissembling one's accomplishments. For centuries people have used speech to dissemble and present that which is not as though it is, prompting Quintillian (circa 100 A.D.) to advise that "A liar should have a good memory." Indeed, as Kenneth Burke notes, rhetoric—speech—is a particularly well-suited medium for the presentation of "the negative," or that which is not.

While a common fear about the Internet is that it makes it easy to lie to people online, apparently people find little difficulty prevaricating without the Internet. In a 1975 study—predating Internet—Turner, Edgley, and Olmstead asked participants to log their conversations, then code them regarding honesty; approximately two-thirds of their conversations were admittedly less-than-honest. According to a review by Burgoon, Buller, and Woodall (1996, p. 430), motivations to deceive "have to do with basic needs, affiliation, cognitive consistency, and entertainment." As long as these basic, healthy needs are addressed through face-to-face communication, we should fear that this medium will be used for deception as it appears to have historically been.

# **Sexual deception and coercion**

"I never had sex with that woman Ms. Lewinski."
(W. J. Clinton, Jan. 17, 1998, in NY Times, Sept. 12, 1998).

It is widely reported that individuals use speech to deceive prospective sexual partners about their intents or their marital status in order to foster sexual activity. Indeed, there are cases in which partners who are in committed relationships nevertheless use talk to deny such a commitment, or to fool and make false promises to sexual conquests using talk. While users of speech are warned that such events are quite common, these events nevertheless seem to take place in many cultures and throughout the ages:

"Sigh no more, ladies, sigh no more,
Men were deceivers ever,-One foot in sea and one on shore,
To one thing constant never."

(Shakespeare, Much Ado About Nothing)

More recently, scholars are examining the dynamics of sexual coercion (Spitzberg, 1998) and patterns of communication typifying obsessional intrusion and stalking, much of which takes place through telephones but much of which emanates from face-to-face relationships (Cupach & Spitzberg, 1998).

### **Flaming**

An alarming degree of verbal abuse has been noted in talk. While insulting, name-calling, and swearing, tend to be <u>over-reported</u> activities as relate to computer-mediated communication (Walther, Anderson, & Park, 1994) there is evidence that its face-to-face analogue, verbal abuse, is rampant in face-to-face interaction. Particularly troubling is its presence in intimate relationships (e.g. Yelsma, 1995). Clearly, verbosity and the purposes to which talk is put are undermining some of the most important social institutions in many individuals' lives.

#### Observations about IAD

Clearly, there are signs not only that unmediated talk may be addictive, and that the purposes to which it is put may be harmful. The same concerns have been raised about excessive use of the Internet. Perhaps some lessons may be learned from thinking about the absurdity of Communication Addiction Disorder that may be instructive in conceptualizing Internet Addiction Disorder.

First, it is extremely important to <u>consider the nature of the activities</u> undertaken through the communication rather than simply the extent of the communication activity alone. It is important to compare what people are doing on the Internet, not with doing unspecified presumably benign activity offline (the "you should go out and get some fresh air and make friends" argument), but with direct parallel behavior—spending time in bars trying to meet people, "cruising," flirting with strangers, reading "trash novels," masturbating, and consuming pornography, at one end of social acceptability; watching television, gathering information, doing research, making and sustaining friendships, collaborating on group projects, expressing themselves via artistic works, learning computer programming, and exchanging social support—as they also might to online--at the other. It is unclear that people are not using the Internet to do things that they would not otherwise do. While Young (1999) notes that the Internet facilitates some aspects of these behaviors, particularly sexual ones, in a less detectable, less stigmatizing, and more convenient way than non-digital analogues provide, she also notes that people prone to cybersexual addiction experience offline sexual addiction. There is no evidence that

these behaviors are novel in the networked environment and that equal amounts of time would not be "wasted" in parallel, non-networked specific activities. It is not clear that the doing of communication is what is really sought, enjoyed, or abused either by talkaholics or Internet addicts, rather than the nature of the activity—functional or dysfunctional—that it facilitates.

Second, it is probably false and misleading to <u>define a behavior as addiction based on symptomatology from non-comparable behaviors</u>. What (mediated) communication addiction shares with substance addiction has been derived through definitional appropriation, not by the inherent properties of the activity itself. Indeed, much of the evidence that the Internet is addictive has come from a wholesale importation of dependency and withdrawal criteria from narcotic addiction diagnosis strategies; according to Griffiths (1998, p. 62) in reference to Internet addiction, "The way of determining whether nonchemical (i.e. behavioral) addictions are addictive in a nonmetaphorical sense is to compare them against clinical criteria for other established drug-ingested addictions."

Such an approach does not offer an intuitive or a formal theoretical explanation of the addiction mechanism. Only most recently have researchers speculated on the properties of the Internet that may facilitate its strong attraction. For example, the ACE model—Anonymity, Convenience, and Escape (Young, 1999)—is an informal beginning to a quasitheoretical explanation of the gratification of cybersex, yet such an explanation has yet to receive the kind of confirmation that testing would offer (such as attempted regarding online social support; see Walther & Boyd, 2002). Nor does it explain why these dimensions would not appeal to everyone to whom these facilitating conditions pertain. In contrast, the question of whether "addicts are using the Internet" (King, 1996) suggests an interaction explanation between Internet properties and personality factors, and begins to approach a more comprehensive explanation, that also remains to be verified.

Communication is not a substance, however, and defining a communication or social activity as addiction, because an aspect of its statistically non-normative use may resemble the trappings of narcotic dependency in some respects, is not necessarily warranted. Doing so could lead to fallacious interpretations of any number of highly functional yet frequent activities, even such as talking a lot. Users seek the direct effects of drug use, and the attractions to gambling are quite clear. Communicating in various different ways and looking at information cannot be shown to have the same etiological or psychological properties. Moreover, while some people may exhibit signs of addiction in relation to their Internet use, if the Internet is addictive like drugs it must be addictive to anybody who uses it frequently, which no one contends it is.

Third, scaling and measurement procedures to detect Internet Addiction in the general population are weaker than even those measuring attitudes toward verbal behavior. Among those reviewed by Griffiths (1998), most scalings of Internet Addiction have been tested on self-selected samples, in most cases responding to recruitment for Internet-addicted profiles. It is dangerous to devise a scale to measure a syndrome that may occur in a general population on the basis of extreme scores, from a self-selected sample. One would expect test/retest reliability to be extremely important when examining subjects whose scores were extreme and could regress toward the mean, especially in light of Roberts, Smith, and Pollack's (1996) research showing that on-line

chat activity is phasic, with an obsessive levels (enchantment) followed by a sharp decline (disillusionment) and then by a more normal level (homeostasis). Overall, reports of scale reliability are scarce, as are examinations of items for discriminate and predictive validity. The measures may be measuring themselves, their only correspondence in some cases being to time spent online which is not, in and of itself, an indicator of dysfunctional rather than functional activity.

Fourth, it is not clear that face-to-face behavior and unmediated relationships are by definition healthier or more natural than mediated relationships, yet the emerging literature suggests that online activity conflicts with "real life" activities which makes heavy Internet usage problematic. Even in Cooper, Scherer, Boies, and Gordon's (1999) rigorous study on sexual behavior via the Internet, they acknowledged that there are at least two conceptualizations of engaging in cybersex or browsing pornography online: healthy "sexual exploration or pathological expression." Yet these researchers, like others who are concerned with "cybersexual addiction" (e.g. Young, 1999), have not apparently examined directly the extent to which such activity replaces time and effort spent in other conventionally un-sanctioned sexual activities such as prostitution, masturbation, or pornography consumption, nor whether such users are any better or worse off using the Internet than using non-electronic means. After all, at least "cybersex is safe sex," reminds Benedikt (1995). Shrewd students of mine have speculated that the WELL, made famous by Rheingold (1993) as the Bay Area bulletin board that became popular in the 1980s, was indeed a safer forum for community maintenance than San Francisco bathhouses had become during that point in time.

Fifth, the Internet is not a bad place to spend time. While it is no utopia, there are real people, sharing real feelings (Rheingold, 1993). Even the most infamous of Internet activities, on closer examination, may be rather innocuous. In Roberts and Parks' (1998) study of gender-switching on the Internet, they found that most people who had presented a gender alternative to their own did so in the context of a role-playing game (it would be difficult to play the role of Captain Kirk without presenting male), rather than for sexual escapades. Furthermore, they found that most people found gender switching difficult and uncomfortable. In other research Parks and colleagues (Parks & Floyd, 1996; Parks & Roberts, 1998) have presented data suggesting that the newsgroups and MOOs serve as public spaces like so many offline, for people to meet and form friendships, nothing more or less. These friendships are no less valuable on many dimensions than face-to-face ones, and a significant number of them friendships move from virtual to physical acquaintance, as well. In a widely-noted recent study linking Internet use to depression, Kraut et al. (1998) speculated that the creation of virtual friendships and social support networks online substituted "weak link" surrogates for "strong link," face-to-face connections; yet their research does not support their argument. Not only did they fail to assess the strength of friendship relations along the lines of Parks and colleagues, but no deleterious effects were found in direct tests of the level of social support achieved by Internet users.

Alternately, the Internet, and the specific activities and relations it may foster, may offer exceedingly beneficial substitutes for some people in some circumstances. For the persons with "low self-esteem, a severely distorted body image, untreated sexual dysfunction" who may not be able to manage a physical relationship and is attracted to cybersex (Young, 1999), for the only hemophiliac in a small rural town in Ohio whose

friends offer bad advice or patronize yet who can find others with similar concerns online (Scheerhorn, Warisse, & McNeilis, 1995), for the lonely, who are apt to exhibit dysfunctional face-to-face communication confirming their self-fulfilling prophecy of loneliness (Bell & Daly, 1985; Prisbell, 1989; Spitzberg & Canary, 1985), for the highly physically attractive junior executive whose male co-workers look at her in the chest instead of in the eye, and for the college student who would rather discuss postmodernism than drink a lot with his dormitory mates, the face-to-face realm may offer little reward at best and psychic trauma at worst. For many, and the possibility of excessively rewarding social relations through online interaction should not be challenged. None of this is to say that those who self-identify as having problems in conjunction with their Internet use should be dismissed, either, and clinical intervention in these cases should not be withheld. But it may not be unwise to suggest that in some cases attention should be focused on the sources of maladjustment that led them to the Net, rather than on the Net itself.

#### Recommendations

More focused research in several areas is needed. First, more needs to be learned about the actual etiology of the mediated communication syndrome to the extent that it may truly exist, or whether its characteristics interact with other predispositions. Without such knowledge it would be prudent to assume that what appears to be Internet compulsion is masking other problems. Doing so will require conceptualizations beyond the appropriation of partial symptomatologies from unrelated addictions.

Second, the use of the Internet should be reconsidered and broken down into the USES of the Internet, setting the stage to learn what specific channels and what specific activities are being addressed by users. From such a perspective we will better be able to address whether these uses are achieving functional, neutral, or dysfunctional effects.

Third, careful research should explore the substitutability of apparently compulsive online behavior as it might actually displace analogous behavior off-line. It would be highly instructive to know what one does when one's computer breaks or one's therapist helps a client to go off-line. Is there is a concomitant resurgence in barhopping, pornography buying, face-to-face gossiping, etc.?

Fourth, research should explore the possibility for whom and under what circumstances online interaction, even at extreme levels, provides a healthy respite from such chronic issues as filial pressures or loneliness, without which a person would be even worse off than they would with their recognized usage of Internet facilities. Clinical and statistical evaluations should be conducted to see whether, once a client no longer answers "yes" to Internet Addiction diagnostic items, they actually feel better on other indicators of adjustment, or if they feel worse.

### References

- Anderson, K. J. (1999, August). <u>Internet use among college students: Should we be concerned</u>. Paper presented at the annual meeting of the American Psychological Association, Boston.
  - Bell, R. A., & Daly, J. A. (1984). The affinity-seeking function of communication. <u>Communication Monographs</u>, 51, 91-115.
- Bell, R. A., & Daly, J. A. (1985). Some communicator correlates of loneliness. Southern Speech Communication Journal, 50, 121-142.
- Benedikt, C. (1995, June). <u>Tinysex is safe sex. Infobahn Magazine: The Magazine of Internet Culture.</u> Retrieved January 5, 1997 from the WWW: http://www.cwrl.utexas.edu/~claire/texts/thoughts.html
- Berger C. R., & Calabrese, R. J. (1975). Some explorations in initial interaction and beyond: Toward a developmental theory of interpersonal communication. <u>Human</u> Communication Research, 2, 99-112.
- Berger, C. R., Gardner, R. R., Parks, M. R., Schulman, L., & Miller, G. R. (1976). Interpersonal epistemology and interpersonal communication. In G. R. Miller (Ed.), Explorations in interpersonal communication (pp. 149-171). Beverly Hills, CA: Sage.
- Berger, C. R., & Jordan, J. M. (1992). Planning sources, planning difficulty, and verbal fluency. Communication Monographs. 59, 130-149.
- Bostrom, R. N., & Harrington, N. G. (1999). An exploratory investigation of characteristics of compulsive talkers. <u>Communication Education</u>, 48, 73-80.
- Burgoon, J. K., Buller, D. B., & Woodall, W. G. (1996). Nonverbal communication: The unspoken dialogue (2<sup>nd</sup> ed.). New York: McGraw Hill.
- Carnegie, D. (1936). <u>How to win friends and influence people</u>. New York: Simon and Schuster.
- Cline, R. J., & Musolf, K. E. (1985). Disclosure as social exchange: Anticipated length of relationship, sex roles, and disclosure intimacy. <u>Western Journal of Speech Communication</u>, 49, 43-56.
- Cooper, A., Scherer, C. R., Boies, S. C., & Gordon, B. L. (1999). Sexuality on the Internet: From sexual exploration to pathological expression. Professional Psychology: Research and Practice, 30 (2); retrieved April 1, 1999 from the WWW: http://www.apa.org/journals/pro/pro302154.html
- Cupach, W. R., & Spitzberg, B. H. (1998). Obsessional relational intrusion and stalking. In B. H. Spitzberg & W. R. Cupach (Eds.), The dark side of close relationships. Mahwah, NJ: Erlbaum.
- Griffiths, M. (1998). Internet addiction: Does it really exist? In J. Gackenbach (Ed.), <u>Psychology and the Internet: Intrapersonal, interpersonal, and transpersonal implications</u> (pp. 61-75). San Diego: Academic Press.
- Goffman, E. (1959). <u>The presentation of self in everyday life</u>. Garden City, NY: Doubleday.
- Hayes, D. P., & Meltzer, L. (1972). Interpersonal judgments based on talkativeness: I Fact or artifact? Sociometry, 35, 538-561.
- Hogan, R., Jones, W., & Cheek, J. (1985). Socioanalytic theory: An alternative to armadillo psychology. In B. M. Schlenker (Ed.), <u>The self and social life</u> (pp. 175-198). New York: McGraw-Hill.

- King, S. A. (1996). Is the Internet addictive, or are addicts using the Internet? Retrieved August 18, 1999 from the WWW: http://www.concentric.net/~Astorm/iad.html
- Kraut, R., Lundmark, V., Patterson, M., Kiesler, S., Mukopadhyay, T., & Scherlis, W. (1998). Internet paradox: A social technology that reduces social involvement and psychological well-being? <u>American Psychologist</u>, 53, 1017-1031.
- McCroskey, J. C. (1970). Measures of communication-bound anxiety. Speech Monographs, 37, 269-277.
- McCroskey, J. C. (1977). Oral communication apprehension: A summary of recent theory and research. <u>Human Communication Research</u>, 4, 78-95.
- McCroskey, J. C. (1978) Validity of the PRCA as an index of oral communication apprehension. <u>Communication Monographs</u>, 43, 192-208.
- McCroskey, J. C., & Richmond, V. P. (1995). Correlates of compulsive communication: Quantitative and qualitative characteristics. <u>Communication Quarterly</u>, 43, 39-52.
- Mortenson, C. D., Arnston, P. H., & Lustig, M. W. (1977). Measurement of verbal predispositions: Scale development and application. <u>Human Communication</u> Research, 3, 146-158.
- Parks, M. R., & Floyd, K. (1996). Making friends in cyberspace. <u>Journal of</u> Communication, 46, 80-97.
- Parks, M. R., & Roberts, L. D. (1998). 'Making MOOsic'" The development of personal relationships on line and a comparison to their off-line counterparts. <u>Journal of Social and Personal Relationships</u>, 15, 517-537.
- Porter, D. T. (1979). Communication apprehension: Communication's latest artifact? In D. Nimmo (Ed.), <u>Communication yearbook 3</u> (pp. 241-259). New Brunswick, NJ: Transaction Books.
- Prisbell, M. (1988). Dating competence as related to levels of loneliness. <u>Communication Reports</u>, 1, 54-59.
- Rheingold, H. (1993). <u>The virtual community: Homesteading on the electronic</u> frontier. Reading, MA: Addison-Wesley.
- Roberts, L. D., & Parks, M. R. (1998, April). <u>The social geography of gender-switching in virtual environments on the Internet</u>. Paper presented at the Brandeis Conference on Life in Cyberspace, Boston.
- Roberts, L. D., Smith, L. M., & Pollack, C. (1996, September). <u>A model of social interaction via computer-mediated communication in real-time text-based virtual environments</u>. Paper presented at the annual meeting of the Australian Psychological Society, Sydney, Australia.
- Scheerhorn, D., Warisse, J., & McNeilis, K. (1995). Computer-based telecommunication among an illness-related community. <u>Health Communication</u>, 7, 301-325.
- Snyder, M. R. (1974). Self-monitoring of expressive behavior. <u>Journal of Personality and Social Psychology</u>, 30, 526-573.
- Spitzberg, B. H. (1998). Sexual coercion in courtship relations. In B. H. Spitzberg & W. R. Cupach (Eds.), The dark side of close relationships. Mahwah, NJ: Erlbaum.
- Spitzberg, B. H., & Canary, D. J. (1985). Loneliness and relationally competent communication. <u>Journal of Social and Personal Relationships</u>, 2, 387-402.

- Turner, R. E., Edgley, C., & Olmstead, G. (1975). Information control in conversations: Honesty is not always the best policy. <u>Kansas Journal of Speech</u>, 11, 69-89
- Walther, J. B., Anderson, J. F., & Park, D. (1994). Interpersonal effects in computer-mediated interaction: A meta-analysis of social and anti-social communication. <u>Communication Research</u>, 21, 460-487.
- Walther, J. B., & Boyd, S. (2002). Attraction to computer-mediated social support. In C. A. Lin & D. Atkin (Eds.), <u>Communication technology and society: Audience adoption and uses</u> (pp 153-188). Cresskill, NJ: Hampton Press.
- Yelsma, P. (1995). Couples' affective orientations and their verbal abusiveness. Communication Quarterly, 43, 100-114.
- Young, K. S. (1998). <u>Caught in the net: How to recognize the signs of Internet addiction and a winning strategy for recovery</u>. New York: John Wiley & Sons.
- Young, K. S. (1999). What is cybsersexual addiction? Retrieved August 18, 1999 from the WWW: http://netaddiction.com/cybersexual\_addiction.htm