

## Theoretical

# THE SUBTLE ENERGY OF LOVE

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### ABSTRACT

That love promotes health surprises few people and yet from the perspective of poets, philosophers and healers who for millennia have understood the powers of love, the scientific study of love and physical health is in its infancy. Because love has many facets and is manifested in many ways as described here, it was banned from Western Science that insisted upon observable and simple independent variables. In this article we present data indicating the salutary effects of love on physical health; these data are from several areas—psychology, sociology, medicine, epidemiology and healing—and together form a foundation for understanding and enhancing love and its effects. Three processes are formulated to explain the health promoting effects of love—psychophysiological, psychophysical and psychosocial/behavioral. Love is described as an energy by virtue of its capacity to produce effects; it is subtle, not because its effects are subtle, but because it has been ineffable to science.

**KEYWORDS:** Love, healing

## INTRODUCTION

If I told patients to raise their blood levels of immune globulins or killer T-cells, no one would know how. But if I can teach them to love themselves and others fully, the same change happens automatically. The truth is: Love heals.

*Love, Miracles and Medicine*  
Bernie Siegel, M.D.<sup>1</sup>

**P**oets, philosophers and theologians for millennia have discussed the qualities and virtues of love, healers have described love as a healing energy, the healed have experienced a power they call love. And for millennia the power of love to heal has been described in folk-lore and sacred texts and accepted as fact. Today, with new tools of investigation, the effects of love are being studied scientifically. While such work may indeed be proving the obvious, it fosters the acceptance of love as an ingredient in health and medical treatment, and may lead to an understanding of the mechanisms through which the energies of love have effect.

This discussion of the relationship of love and physical health begins with an overview of conceptualizations of love which provides a framework for understanding the many facets of love and highlights the universality of love and the complexities of studying its effects. This is not a comprehensive literature review nor a critique of research, although key studies and methodological issues are discussed. While many intriguing studies have been conducted on “spiritual healing” with a variety of human and nonhuman subjects, we focus on work in which love is clearly an ingredient. We bring together data from several fields—psychology, sociology, medicine, and epidemiology—that have a common denominator, the salutary effects of love on physical health. The effect of experiencing love on psychological health is well known and the two effects are clearly related. In this paper however, we do not address the effects of love on psychological health as a separate topic, nor do we discuss the effects of love that are associated with the social change resulting from the efforts of the great advocates of love and nonviolence such as Gandhi, Martin Luther King, Jr. and Jesus.

We suggest that psychophysiologic, psychophysical, and/or psychosocial/behavioral processes may account for the effects of love, acknowledging that the effects are likely to be the result of complex variables that interact synergistically. In some cases, all three processes and perhaps others, may account for the effects of love.

Because “energy” is defined as the capacity to produce effects, love may be referred to as an energy; it is subtle, not because its effects or subjective impact are subtle, but because it is ineffable to science, or so it has seemed.

## CONCEPTUALIZATIONS OF LOVE

Following their penchant for analysis, the Greeks described love as polymorphic—of many forms. These forms or types of love illustrate the different ways in which love is expressed and experienced, and the Greeks used a separate term for each: *philia*—friendship; *eros*—originally *eros* referred to “love of the good” but today connotes desire and romantic love; *storge*—family love, *koinonia*—community love; *agape*—altruistic love.

**P***hilia* refers to the love between friends. *Philia* involves commitment and support, a willingness to help, a tighter bond than “just acquaintances.” *Eros* is commonly used to refer to love that includes sexuality and romance. *Eros* is self and significant-other focused. *Storge* refers to brotherly/sisterly love, parental love, family loyalty—bonds that are stronger than friendship, that cross generations and create unity within a group. *Agape* is altruistic love, referring to the love that people have for others by virtue of their humanity and regardless of conditions. *Agape* is selfless love—giving to and caring for others. It is love based on equality, and love in which one sacrifices personal needs for the needs of others without reward. *Koinonia* refers to the love in a spiritual community that strives to maintain loving relationships sustained by forgiveness and acceptance of the faults of others, and acceptance and caring for all. *Koinonia* describes the love that extends beyond the family to the larger community. This became an important concept in early Christianity and *koinonia* was experienced as a sustaining force in many communities. Like *koinonia*, the concept of *agape* became fundamental to Christianity. The Christian theologians refined and expanded the concept of

*agape* to include universal love without barriers. Christian theology also emphasizes forgiveness as a loving act and an aspect of love. Many concepts are incorporated into the Rabbinic/Christian description of love: God is love; love is a powerful energy in the universe; through meditation and prayer humans contact the love of God; the loving energy of God; love is a healing force at work in the universe that has effects and people can experience this love. Over the centuries these concepts have been a foundation for understanding and professing the power of love in human life.

**T**oday one characteristic of *agape* that stems from the Rabbinic/Christian heritage is known as “unconditional love.” Carl Rogers first described unconditional love and nonpossessive, noncontrolling love as fundamental to a therapeutic relationship and today the concept of love without conditions is well known, and unconditional love in relationships is an ideal.

Martin Heidegger, a German phenomenologist, described the essence of love as **caring** (Ger. *sorge*). He seems to be accurate. “Caring” is a common theme in all meanings of love and another way of describing love is by the degree of caring involved in the particular situation. The caring that is part of an informal group is love, the intimate caring in marriage is love, the unconditional caring of a parent is love, the empathy and compassion of a healer is love, the caring of Jesus for humanity is love, the caring of the therapist for the client is love.

## LOVE BY ANY OTHER NAME

In his popular book *Love*, Leo Buscaglia tells the story of beginning his first class on love in 1970, simply called “Love Class.”<sup>2</sup> His colleagues were highly skeptical of the legitimacy of the class in spite of large enrollments; he was allowed to teach a class on love because it was offered for no credit and no tuition. His experience was not uncommon. Even though love is a primary motivator of human interactions and romantic love is a preoccupation of the culture, and even though psychologists and sociologists were familiar with the work of Rene Spitz on orphanage children who fail to thrive without love, and knew of the trauma of Harry Harlow’s monkeys, the topic was considered unworthy of scientific study. In a review of 23 volumes of the *Annual Review of Psychology*, Curtin found no references to love.<sup>3</sup>

Today, two changes are occurring. First, prominent researchers and clinicians do not hesitate to share their understanding of the importance and power of love as illustrated by the following titles: *Love is Letting Go of Fear, Teach Only Love; Love, Miracles and Medicine, Guilt is the Teacher, Love is the Lesson; Healing with Love, Creating Love, The Triangle of Love.*<sup>1,4-9</sup> In these books love of self, and giving and receiving love, are described as central factors in psychological and physical well-being. Second, as psychology emerges from the thralldom of mechanistic behaviorism and the fear of appearing unscientific, the study of love has become legitimate, not often as love *per se*, but as aspects of love—affiliation, social ties, social support, therapeutic alliance, social connections, social integration, social network. Harvard professor David McClelland wrote:

The word love is commonly used to describe various types of affiliative ties characterized by openness, caring, concern, reciprocal dialogue, joy and conviviality.<sup>10</sup>

McClelland chose to study “affiliation” rather than “love.” In a study of the relationship of love and self-esteem in patients with multiple sclerosis, Walsh and Walsh use a positive affect scale which measures the subject’s contact with people who are caring, admiring, accepting and loving; love is measured as positive affect and is defined as “the need to both receive and to give affection and nurturance, as assurances of value, respect, and acceptance.”<sup>11</sup>

**I**t is interesting that of 1188 citations in the data base Psychlit and 1000 citations in Sociofile in which the word “love” appears, none occur with “healing” or “health” as cross-references. Nonetheless, the relationship of social ties, affiliation, and social support to health and recovery from illness is a topic of increasing interest in many fields, and the growing body of research can be viewed as a first step in acknowledging and understanding love as a force that promotes health and well-being.

In discussing the research we do not attempt to analyze the characteristics or types of love beyond these general descriptions. We progress from the results of large prospective epidemiological studies in which individuals are not studied, to research on social relationships in the small town of Rosetto, to quality of marital relationships and friendship.

## RESEARCH: LARGE PROSPECTIVE EPIDEMIOLOGICAL STUDIES

**I**n this type of research, data from large populations are gathered and over the years the data are correlated with the outcomes of interest such as onset of illness, type of illness, or mortality. It is hoped that through these longitudinal studies causal relationships can be established between social variables and health variables.

**Alameda County, California.** In 1965 the Human Population Laboratory of the California Department of Health Services identified a representative sample of residents of Alameda County, which includes Berkeley, for participation in a study of behavioral, social and psychological variables related to health. Six thousand eight hundred and forty-eight people completed an extensive questionnaire on personal health habits (smoking, exercise, obesity and use of alcohol), psychosocial variables (marital status, friendships, family ties, participation in social and religious groups), and socioeconomic status (education, type of job, income level). The psychosocial variables as a group were referred to as “social network.” The participant identified the number of people with whom she or he was “close” and could talk to, feel at ease with and ask for help. Without using the word, the Alameda study was asking about loving relationships.

The first follow-up study was conducted on mortality data collected in 1974. Of all the variables, social network had the highest correlation with health and longevity.<sup>12</sup> An inverse relationship was found between number and significance of social ties (marriage and close friends and relatives were judged as more significant than church and social organization membership) and death from all causes. People with many close social ties had a risk of death that was low, relative to people with few social ties. It was also found that people with close social ties and unhealthy lifestyle behaviors lived longer than people with healthy behaviors lacking close social ties.<sup>12-14</sup>

A key finding in the Alameda study was that social isolation was a considerable risk for death. Social isolation and feeling socially isolated can be construed as a lack of loving relationships. In a 17 year follow-up examining the relationship between social network and cancer (onset, prognosis and death) Reynolds

and Kaplan found that for women, social isolation was a risk for cancer incidence and mortality.<sup>15</sup> This relationship in men was confounded by the fact that many cancers were smoking related, which may have masked the effect of social isolation. Social isolation has been implicated as a risk for recurrent myocardial infarction or death in several studies and is correlated with increases in systolic blood pressure.<sup>16-18</sup> A positive correlation between a global measure of social ties and health and a positive correlation between a global measure of social isolation and illness and death are consistent findings in all large prospective studies.<sup>19</sup> When specific aspects of social ties are analyzed however, such as marital status or type of support received (emotional support vs. instrumental support) inconsistencies across studies arise. For example, one study might indicate that being married acts as a buffer against illness while another does not. These differences are due to methodological inconsistencies. As in research in all fields, methodological differences in research on social connectedness and health, although understandable, limit comparisons and meta-analysis. Participants in a community-based study of 2,754 people in Tecumseh, Michigan were asked **how often** they visited close friends and relatives as a measure of social ties while the Alameda respondents were asked **how many** people they considered themselves to be close to.<sup>20</sup> This simple difference may account for lower correlations for men and no correlation between social ties and health in women in the Tecumseh study.

**C**hurch attendance. Large population studies on religiosity, usually measured as church attendance, indicate a relationship between attendance and various measures of health. Twenty-two of 27 studies found that weekly church attendance is significantly correlated with no reported illness, recovery from illness, lower blood pressure, reduced cancer incidence and reduced mortality when compared to the general population.<sup>21</sup> The relative contribution of social ties to these results is not clear but that church attendance incorporates social connectedness is clear. Unfortunately the results of these studies are questionable because serious disease and functional disability may limit church attendance. Levin and Markides found that the healthy members of a congregation attend church but not the aged and disabled, so the data are biased toward a relationship between church attendance and health.<sup>22</sup>

**Angina.** In Israel, ten thousand married men, 40 years or older, participated in a five year prospective study. Blood cholesterol, blood pressure, anxiety, and

family and psychosocial problems were measured, and each participant had an electrocardiogram. The family problems questionnaire included the question: "Does your wife show you her love?" Response to this question was the best predictor of the development of the outcome measure, angina pectoris. Also, if the person felt the love of his wife, he was protected from other risk factors including anxiety. "The wife's love and support is an important balancing factor, which apparently reduces the risk of angina pectoris even in the presence of high risk factors."<sup>23</sup> For example, the average incidence of angina pectoris is 5.7 per 1,000 adult males. High anxiety, without a loving and supportive wife increases the incidence of angina to 93 per 1000. However, the incidence rate for angina was reduced from 93 to 52 per 1000 when the highly anxious subject felt the love and support of his wife.

**A**bsenteeism. In the 1950s two physicians of the New York Telephone Company were given the task of analyzing the causes of absenteeism in the employees. They examined the life histories, quality-of-work evaluations and health histories of 2,000 employees. Unexpectedly, they found that some employees had an unusual number of stressful life events but remained healthy. The chief investigator, Lawrence Hinkle, conducted an in-depth study of 20 women with the lowest number of absences; all had worked for the company for more than 20 years. Hinkle described the low absentee women as:

Individuals who were able to make friends readily. They were "outward going" and capable of diffuse emotional attachments. In any group in which they found themselves they soon became happy and well liked. Among these women there were many instances of profound loyalty and deep attachments to parents, brothers and sisters, or husbands.<sup>24</sup>

Hinkle found that these women were rarely absent from work because they were rarely sick; their excellent record was not due to working in spite of illness.

**Roseto, Pennsylvania.** Roseto is a small Italian-American community in eastern Pennsylvania. In the mid 1960s epidemiologists found that the death rate from myocardial infarction in this town was one half that of neighboring communities and the United States as a whole. Intrigued by this finding, Bruhn and co-workers attempted to discover the cause.<sup>25</sup> They found that in general, Rosetans were overweight, consumed more total fat than the average American,



had a high rate of cigarette smoking, were sedentary, and had serum cholesterol levels comparable to the average American; clearly these variables were not contributing to heart attack. Bruhn hypothesized that the protective factor was mutual social support. Bruhn and Wolf studied the citizens of Roseto and found a close-knit family of people who maintained their cultural traditions, participated in social affairs, conformed to the cultural norms and were mutually supportive during crises, and they had a sense of belonging.<sup>26</sup> Bruhn and co-workers predicted that as the Rosetans became more materialistic, individualistic and mobile, the social support system would break down and myocardial infarction would rise; this happened.<sup>27</sup>

These early large population studies provide a foundation and a starting point for more in-depth studies in which concepts such as social ties, or even love, are comprehensively defined and incorporated in the survey in a way that measures the many aspects of love. Although the study of large populations yields extensive data, the drawbacks are that follow-up is difficult, the outcome measures must be easily obtained (such as death rate based on mortality records), and individual differences are not examined. Nonetheless, these studies indicate that *philia*, *storge* and *eros* all have salutary effects on health.

## RESEARCH: IMMEDIATE OUTCOME STUDIES

Another approach to understanding the relationship between social connectiveness and health is to study individuals more closely and to correlate current health with current social relationship variables.

**C**hild birth. An often cited study clearly demonstrates the effect of social support on a seemingly biologically determined process—delivery of a child. Several physicians in Guatemala City were concerned about the lack of social support for mothers during delivery in modern hospitals.<sup>28</sup> They randomly assigned 136 women to an experimental or control group at the time of delivery. The control group received standard medical care. In addition to standard care, the experimental group mothers were attended by a *doula*, a woman who provided constant support from admission through delivery. She rubbed the mother's back, talked with her and was a friendly companion. Mean delivery time for the experimental group mothers was 8.7

hours compared to 19.3 hours for the standard treatment group. The mothers who were given social support from the doula had fewer complications during delivery and more readily bonded with their babies than the control group mothers.

Today, social support during delivery is being reestablished through mid-wifery and programs such as Lamaze. In a summary of research on social support and childbirth, Nichols and Humenick write, "The multidimensional concepts of social support and social networks provide a new perspective for childbirth education. A rich body of research literature documents that supportive relationships influence the nature of pregnancy and early parenting."<sup>29</sup>

**Quality of marital relationship and NK cell activity.** Perhaps the most intriguing question about love and health is "What are the mechanisms?" Kiecolt-Glaser and Glaser and colleagues compared the quality of marital relationship and immune functioning in 473 women.<sup>30</sup> The more supportive the relationship, the more competent the immune system; the poorer the relationship, the less competent the immune system, as measured by natural killer cell activity. These researchers concluded that supportive interpersonal relationships act as a buffer against the effects of stress by promoting immunocompetence. In this study natural killer cell activity was not correlated with health or illness, yet they indicate that basic functions of the immune system are effected by love and the lack of it in relationships.

**Mother Teresa and *agape*.** There are many loves in marital relationship—*eros*, *philia*, *storge*, *agape*—it is unlikely that their relative effects will ever be known. On the other hand, research by McClelland and colleagues may provide clues about *agape*, unrelated to other social variables. During a complex experiment involving several variables, McClelland and Kirshnit exposed subjects to a film on the life and work of Mother Teresa as she cared for the sick and dying outcasts in the slums of Calcutta.<sup>31</sup> Exposure to the compassionate love of Mother Teresa produced an immediate and significant increase in S-IgA in all subjects. Of this McClelland stated, "The finding needs further confirmation and clarification, but it is consistent with the overall picture derived from a number of similar experiments; the affiliative motive, or the capacity to love and be loved, are somehow associated with better health."<sup>32</sup> Although no data are available on their subjective experience, we believe that exposure to Mother

Teresa stirred the viewer's sensitivity to *agape*—pure altruistic love—which she manifested. The fact that one of the immune system's defenses against disease was enhanced in the passive viewer leads to fascinating questions: was the viewer actually feeling the love of Mother Teresa? Is the immune system altered in the recipient of love such as Mother Teresa's? Is the immune system altered in one who gives altruistic love? The answers to these questions are within reach and may lie hidden in the data already reported but remain inextractable since altruistic love in itself was not studied.

## HEALING COMMUNITIES

A loving community is formed when people with common problems come together for the purpose of self exploration, sharing with others, problem solving, caring and receiving care. The importance to humans of participating in a group in which unconditional love goes hand in hand with sharing and problem solving is exemplified by Alcoholics Anonymous which promotes healing and behavior change. In such groups people learn that they are not alone and the barriers that prevent social connectedness are dissolved. In a sense, support groups promote *agape* and *koinonia*—altruistic love in a loving and forgiving community.

**C**enter for Attitudinal Healing. Like adults, children need psychological help and social support to cope in a healthy way with chronic and life-threatening disease. Child psychiatrist Jerry Jampolsky, who teaches "Love is the answer" created the Center for Attitudinal Healing in Tiburon, California where children with catastrophic disease and injury can share any fear, ask any question, and dream any dream in an atmosphere of mutual love, with an incomparable support group—other children. The foundation of the work at the Center manifests three beliefs or attitudes: (1) Love is the greatest healer; (2) healing is letting go of fear; (3) health is inner peace. The feelings of love and inner peace come from giving and receiving love, living in the present, by forgiving rather than judging oneself and others, and by feeling eternal love. At the Center, children experience these attitudes through connectedness with others, and through giving and receiving love and comfort. Jampolsky writes: "Love knows no place it cannot go and no person it cannot bring rest."<sup>5</sup>

**Commonweal.** Commonweal is a short-term live-in loving community for persons with chronic and terminal disease. Its founders describe Commonweal as a place where people can explore physical, mental, emotional and spiritual paths to healing and recovery that comes from inner sources. With a keen awareness of the importance of social connectedness that occurs among the program participants, Naomi Remen, M. D., Director and founder of the Institute for the Study of Health and Illness at Commonweal and medical director of Commonweal Cancer Help Program comments on the negative effects of social isolation “. . . that’s what most people who come here talk about. They say that the sense of isolation, of being separate from people who are well, is as painful as chemotherapy, as cancer itself. They feel that other people don’t want to listen and don’t understand. I think it weakens people to feel isolated.”<sup>33</sup> At Commonweal the sense of isolation is dissolved as people explore and share in an atmosphere of love.

**S**upport groups. The usefulness of support groups in fostering behavioral change is well known. Organizations such as Alcoholics Anonymous and Weight Watchers provide social support, incentives, role models, knowledge and a cognitive or spiritual orientation that strengthens volition. As described above, support groups for people with chronic or terminal illness are invaluable but few have been studied for effects on disease variables such as longevity or change in prognosis. In 1976 psychiatrist David Spiegel, Director of the Psychosocial Treatment Laboratory, Stanford University School of Medicine, initiated a study in which 50 women with breast cancer received traditional medical treatment and participated in a support group in which strong friendships developed and fears and difficulties associated with the illness were openly shared. The control group of 36 women with similar diagnosis and prognosis received only traditional medical treatment.<sup>34</sup> At the one-year follow-up the women in support groups were less anxious and depressed than the control women, and at the ten-year follow-up, Spiegel and colleagues found that women in the support groups lived an average of 18 months longer than women without a support group. This work is currently being replicated.

Grossarth-Matticek and colleagues also conducted an intervention study to determine the effect of cognitive-behavioral therapy on survival.<sup>35</sup> Seventy-five women with breast cancer were assigned to one of three groups: (1) chemotherapy, (2) group cognitive-behavior therapy, and (3) group cognitive-

behavior therapy and chemotherapy. The survival time of 25 women who received no treatment was used for comparison. Women who received no treatment survived an average of 11.28 months. The women in the chemotherapy group survived an average of 14 months, women in the cognitive-behavior group survived an average of 15 months, and women in the chemotherapy and cognitive-behavioral group survived an average of 22.5 months. The combination of chemotherapy and cognitive-behavioral therapy was twice as effective as no treatment at all, and 1.5 times as effective as chemotherapy or cognitive-behavioral therapy alone. Earlier work by Grossarth-Matticek identified lack of emotional expression as a precursor of cancer.<sup>37</sup> The intervention study was to determine the benefit of learning to express emotions. Although Grossarth-Matticek does not discuss the results in terms of social support, the women worked with the therapist in a group and it is clear that this intervention included strong social support as the women learned to express and share their feelings with each other.

The work of Dean Ornish, with coronary heart disease patients, illustrates the importance of social support in behavior change. The program combines exercise, diet, relaxation/meditation and social support, and is successful in reversing atherosclerosis in some participants without medicine. Based on several years of work with people in the support groups, Ornish comments "I am coming to believe that anything that promotes isolation leads to chronic stress and in time may lead to illnesses like heart disease. Anything that promotes a sense of intimacy, community and connection can be healing."<sup>33</sup>

**I**n 1978, Friedman and associates began a 4 1/2 year study of men and women who had already suffered one myocardial infarction, The Recurrent Coronary Prevention Project. The goal was to determine whether or not Type A behavior can be modified, and what effect this would have on cardiac disease and mortality.<sup>37</sup> The treatment goal was reduction of the risk of a second myocardial infarction. Eight hundred sixty-two participants were randomly assigned to either a cardiac counseling group or a cardiac counseling plus behavioral counseling group. One hundred fifty-one subjects served as a no-treatment control group.

The 270 subjects in the cardiac counseling group met for an average of 25 group sessions in which anxieties about heart disease and other matters were

discussed and information was presented about diet, exercise and the physiology of the cardiovascular system. Subjects in the cardiac and behavioral counseling group met an average of 38 sessions. Participants met in small groups of 10 led by a facilitator who helped them become aware of Type A behavior pattern and learn skills for developing healthy behaviors. A variety of methods were used including techniques for enhancing self-esteem and social skills. Social support from the group leader and other group members was inherent in the program. Careful attention was paid to selecting group counselors who could model the skills and behaviors that the participants were learning. The most important characteristic of a leader was ability to care.

Perhaps more than any other thing a leader can do for these patients is to provide them with what many did not adequately secure in childhood—unconditional love and affection from a respected parent figure. . . This caring and competent leader must at times be tough on certain patients. But if the tough approach is blended with respect and genuine caring, growth can emerge.”<sup>38</sup>

The entire Recurrent Coronary Prevention Project staff were caring, supportive people, who created a sense of community. The quality of this caring community was vividly seen in the field director, Diane Ulmer. Friedman writes:

Diane Ulmer became a sort of surrogate mother to hundreds of our male participants. While we had been aware of the importance of inadequate maternal love and affection in the formation of Type A behavior in men, we did not realize until we were well along in the study that such deprivation could be to some degree compensated for in adult life. Diane Ulmer was able to do this. Presumably someone else as warm and dedicated could do the same. We must note in passing, however, that the wives of our male participants were rarely able to fill the role, one reason being that many of them were themselves Type A, and thus busy searching for (and not finding) the unconditional parental love missing in their own childhoods.<sup>39</sup>

At the end of 4 1/2 years, participants in the behavioral counseling groups had a 45% lower recurrence of myocardial infarction than the cardiac counseling group. In this multicomponent program the relative effect of a single component cannot be determined, but social support, sharing and love were important ingredients.

The work of Dean Ornish, Rosenman and Ullman, Spiegel, and Grossarth-Matticheck demonstrates the importance of community and loving relationships on physiological variables and on helping people adopt and maintain health behaviors. The growth of organizations and support groups that bring people together who are experiencing illness in an atmosphere of love, sharing and acceptance, testifies to the importance and benefits of such groups. The people who participate in these groups say that acceptance and love are healing.

## HEALERS

The healer as a channel for “God’s love” and as one who radiates loving energy are classical images in Christianity and other traditions. Many healers describe their work as “sending love” and are themselves described as loving people. Compassion and the intention to heal or promote well-being in the healee are universal elements in healing. Dora Kunz, who with Dolores Krieger developed Therapeutic Touch, says of a healer “The role of the healer is just to be an instrument, by his compassion and by his focusing to allow this healing force to flow through him to the patient.”<sup>40</sup> Psychologists studying the spiritual healers of Brazil describe an aura of love filling the crowded room where the healer works while patients wait to be treated.<sup>41</sup>

**S**ome healers, such as Mietek Wirkus, describe the healing process as moving energy through the heart chakra. “Heart center vibrations relate to unconditional love, and to treating other beings with love, understanding and respect.”<sup>42</sup> Mietek emphasizes that the healer “must feel and be the heart chakra. . . . It is not thinking the word ‘love,’ it is not a visualization process, it is the real sensation of pure love which brings warmth, delicate vibrations in your heart area.” After years of working with healers in the Copper Wall Project at The Menninger Clinic, Elmer Green reports that several healers in the project describe their work as focusing loving energy.<sup>43</sup>

Excellent double-blind studies have shown that healers can accelerate wound healing in mice and humans, retard the growth of cancer cells, effect enzymes, seedlings, grass and water, increase hemoglobin and reduce pain in humans.<sup>44,45</sup> In a study on the effects of prayer on recovery from heart attack, Byrd demonstrated that patients in the experimental group who were the focus of

daily prayer regarding their rapid recovery without complications, fared better during the hospital stay than did patients in the control group who were not the subject of daily prayer.<sup>47</sup> None of these studies however, attempted to demonstrate that love or loving intention was the active ingredient in the healing process although if one is focusing on another's well-being and recovery in prayer, perhaps we may assume that love was an ingredient.

**I**n a series of studies with Leonard Laskow, M.D., Glen Rein examined the specific intention of unconditional love and possible putative aspects of healing.<sup>47</sup> The first set of experiments assessed the effects of Laskow's mental intentions on tumor cells. The intentional focus of sending unconditional love had no effects on the cells. The intention of allowing the cells to return to natural order and harmony inhibited cell growth by 41%. In a second series of experiments, water samples were used to measure the effects of the conscious intentions of the healer. After Laskow focused his intention on a sample of water it was used to treat tumor cells. Water affected by the intention of unconditional love caused a 21% inhibition of cell growth. The largest effect, 28% inhibition of cell growth, was from water "receiving" the intention of having the cells return to natural order and harmony.

Experiments of this type, and the descriptions of healing by healers and heales suggest that love is an energy or focuses an energy. In the modern center of healing—the hospital—the recognition is growing that loving care is an important ingredient in the patient's recovery and must be promoted. Not surprisingly, data indicate that patients who have empathic and loving physicians do best.<sup>48</sup>

## MECHANISMS

At least three processes may account for the effects of love which we refer to as (1) the psychophysiological process, (2) the psychophysical process and (3) the psychosocial-behavioral process. Each process may account for particular effects associated with love while in other cases all may be involved.

**Psychophysiological process.** In discussing this process, "love" refers to the experience of being loved as measured by instruments like the positive affect



scale mentioned above which include being cared for, admired and accepted, and it refers to constructs such as social support, affiliation and social ties. In the psychophysiological process the effects of love on health result from the effect of experiencing social support or affiliation or caring on the psychological well-being of the person. Psychological well-being includes high self-esteem, a sense of self-efficacy, reduced stress, reduced depression, purpose-in-life and other variables associated with psychological health. It is well known that these variables are linked to physical health.<sup>49</sup> It is assumed that these variables, particularly reduced stress, are the mediators between love and physical health. Research on social support substantiates the stress buffer hypothesis.<sup>50</sup> The effects of stress and negative emotional states on physical health are well documented and neurophysical pathways are well understood.

The psychophysiological process also suggests that psychophysiological factors may account for healing that occurs when a person seeks a healer or healing community and receives treatment. In this case, the person's experience of love combined with positive expectation, hope, and positive visualization of healing may trigger homeostatic mechanisms within the body that foster healing. In this process, love is not an energy of a type that might be transferred from healer to patient, rather it is a stimulus or condition that enables the person to "turn on" healing mechanisms within, and may be effective in the same way that a placebo is effective. In discussing the impact of participation at Commonweal, Remen notes "People have been healing each other long before there were doctors."<sup>33</sup> Turning on the healer within is an important part of the work.

**T**he effects of pets on health variables such as recovery after heart attack illustrates the psychophysiological process "uncontaminated" by psychosocial variables such as expectations, and appear to demonstrate the powerful impact of receiving and giving unconditional love on homeostatic mechanisms.<sup>51</sup>

The positive effects of love are also demonstrated through its absence—the negative effects of social isolation and loneliness. Stress, anxiety and depression accompany isolation and loneliness, and the negative effects of these on health via psychophysiological mechanisms are well known.

The psychophysical process. In this process “love” suggests a radiant energy or a guiding principle for an energy that is transferrable, can be directed, and has effects at a distance. In this conceptualization love has energetic properties, and these energetic properties have effects, *sui generis* and may be independent of other variables. In this process, the mental element (psycho) refers to the intentions and expectations of the *healer* or healers. As a mechanism for healing, this process is difficult to prove when a person seeks healing from a healer. As noted, in this case psychological variables such as positive expectation that have powerful effects on the body may be operating via psychophysiological processes. It is possible that when a person is attended to by a healer, both processes operate.

**I**s there evidence for this classical view of love as a healing energy that can be focused by the healer and received by the healee? In spite of the apparent evidence, the question is not easily answered. The best evidence for a psychophysical process comes from research and cases in which the person being healed is not aware of the intention of the healer or healing community and yet a healing occurs or health improves. Single and double-blind studies provide strong evidence for the psychophysical process, although these studies have not examined love *per se* as the healing agent. An intriguing question arises: can the healing energy of love be effective when the recipient does not want to be healed? Because the psychological (or spiritual) state of the recipient may interact with love energy, the state of the recipient must be taken into account.

Although healers often refer to channeling or focusing an energy external to themselves, it is also possible that the energy of love can be generated from within the healer or individual who is “sending love.” The body potential changes seen with some healers in the copper wall project may indicate that changes do occur within the healer.<sup>52</sup>

Perhaps the best evidence for the psychophysical process comes from studies on the effect of prayer on plants.<sup>53,54</sup> In this case it is difficult to argue that plants respond to prayer through their own expectations and visualizations. A more likely explanation is that the “healer” focuses an energy that affects plant growth.

The **psychosocial-behavioral process**. People in loving relationships can be persuaded and helped to adopt health behaviors by their loved ones. A health-oriented social network is a powerful motivator for maintaining health behaviors. In this case, love is not the immediate or sufficient cause of good health but it is a force in promoting health behaviors such as freedom from addictions, regular aerobic exercise, proper nutrition, stress management and knowledge. Research on social networks and health has not adequately examined this process and its relationship to health outcomes.

## DISCUSSION

A fundamental principle which cannot be understated is that health and illness are multicausal complex human variables. We find that the biopsychosocial model well describes the complexity of health and illness, and emphasizes the interaction of innumerable biological, psychological and social variables.<sup>51</sup> In fact, the most appropriate model for understanding love and healing might be biopsychosociospiritual. Attempts to isolate a particular variable will fail when many variables interact synergistically to produce the effect. Furthermore, the direction of causality is an issue; for example, does good health enhance social support, or does social support enhance health, or both?

**T**he difficulty of isolating the mechanism through which love has effects is well illustrated in the story of a woman dying of heart failure, described in a brief article titled “The Energy of Love” by the hospital supervisor who witnessed the event.<sup>55</sup> After failing for two hours to stabilize the heart, the physician called in the woman’s family to say good-bye. The moment that the family members touched the dying woman, “the heart rhythm changed from the potentially lethal V-tach to a sinus rhythm. Half an hour later when I left the room, the woman was awake and helping remove what remained of her clothing.”<sup>55</sup> Is this an example of the psychophysiological process in which healing resources within the patient were elicited as she felt her connection with her family, or is this an example of the psychophysical process in which family members were able to focus healing energy into their mother through their touch, or are both processes at work?

The difficulty of isolating and independently studying these processes is clear, and the complexity of human nature reflected in them has been the bane of research. Contrary to the scientific research model in which an independent variable and its effects are isolated, it is virtually impossible and perhaps equally senseless to attempt to determine the impact of a single “independent variable” such as number of intimate relationships, on health.

Perhaps because of this complexity, the research is replete with different definitions of key concepts such as “social support,” with different measures of social connectedness which may lack reliability and validity, and with different outcome measures. Some instruments attempt to measure *quantity* while others attempt to measure *quality* of social support. Some measures focus on social networks and researchers refer to “social density” as an important measure.

**R**esearchers are also aware that there are different types of social support—emotional, instrumental and informational—and that these types may have independent impact on health although they may interact and perhaps cannot be studied independently. Furthermore, a person’s *social skill*, *perceived* social support and *need* for social support are recognized as compounding variables that may influence other measures.<sup>56</sup> Individual variables such as these are clearly related to how a person responds on a social support, inventory, and they are related to the impact of social support on the person’s health, but they are difficult to measure.

As Starker and others have noted, difficulty in interpreting the data also stems from the fact that negative social ties are usually not measured.<sup>56</sup> It is reasonable to assume however, that the presence of negative relationships counteracts the effect of positive relationships and may account for inconsistent findings and low correlations between social support and certain health measures.

Another difficulty arises from the complexity of health and illness. These are not simple, easily measured outcomes, but when they are simply measured as, for example, by number of physician visits, the measure may not truly reflect the state of the individual. Also it is likely that social support influences health not only through the emotional impact of being loved and cared for, but also through instrumental support. For example, a spouse may insist that her husband see a doctor, or may help him maintain healthy lifestyle habits or

comply with a medication regime. These may promote health “instrumentally” as the psychosocio-behavioral process suggests, and are the direct cause of good health.

In the research, it is clear that a constellation of variables comprise the independent variable, and although these variables differ from study to study, and the outcome variables vary, it is clear that in some way social connectedness, which we propose is a measure of love in a person’s life, is related to health and social isolation is related to illness.

Myers and Benson point out that a hallmark of “hard” scientific research is not the purity of the independent variable and its ability to fit a reductionistic model, but rather that the effects are measurable, reliable and reproducible.<sup>57</sup> These criteria are being met in the research described above. In this regard, the research linking love and health is reminiscent of the research linking smoking to lung cancer. No single study demonstrated definitively a causal relationship; many studies were needed before the data were indisputable and accepted. This is because many variables are involved in the independent variable “smoking” and many are involved in the outcome, lung cancer. As research methods are refined, concepts clarified and reliable measures developed, the effects of social connectedness on health will be indisputable—as everyone already suspected.

## CONCLUSION

Someday we will understand the psychological and physiological workings of love well enough to turn on its full force more reliably. Once it is scientific, it will be accepted.<sup>1</sup>

**T**his statement captures two key issues—the need to understand the nature of love so that it can be developed and used, and the need for this understanding to be scientific. Progress is being made on both fronts. Scientific data from epidemiological research on social networks, from psychoneuroimmunology, studies with healers, and perhaps from projects like the copper wall research of Green<sup>52</sup> demonstrate that love is associated with a variety of effects. The causal relationships and mechanisms involved in the association are yet to be understood, but methods of investigation are being

developed. At the same time, social connectedness and social support, love of self and of others, giving and receiving love, are acknowledged by health professionals as important ingredients in personal health and recovery. Increasingly, hospitals are incorporating social support of the family into the healing process, and medical personnel are more conscious of the patient's psychological and physical need for warmth and love in the treatment they receive. Helping patients and professionals "turn on its full force more reliably" is the challenge. Many believe that this challenge must be broadened from the personal to the social level. The idea that love is a force in societal and global health is not new, although its great champions may seem like voices in the wilderness in the face of the violence and human slaughter occurring in the world today. In 1950, in his book *Altruistic Love*, philosopher and social scientist Pitrim Sorokin wrote:

Mankind will survive if there are no great scientific or philosophical or artistic or technological achievements during the next hundred years. But this survival becomes doubtful if the egotism of individuals and groups remains undiminished; if it is not transcended by a creative love as *Agape* and as *Eros*—love as a dynamic force effectively transfiguring individuals, ennobling social institutions, inspiring culture, and making the whole world a warm, friendly, and beautiful cosmos.<sup>58</sup>

**I**t is encouraging that the concept of love as a universal force for good is global. Although love was banned from scientific study due to a limited sense of what science is in the first decades of this century, the foundation for the scientific study of love has been in human consciousness, perhaps from the beginning. Whether love is conceived of as the universal energy, or as a manifestation of universal energy, or as a subjective experience with purely psychological and social roots, love, in its many forms, has effects and these effects can be studied. The scientific study of love epitomizes the aim of all humanistic science—to enhance the well-being of humankind. In this regard, the growing exploration of the powers of love is timely.

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