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Social Network Variables in Alcoholics Anonymous: A Literature Review

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Abstract

Alcoholics Anonymous (AA) is the most commonly used program for substance abuse recovery and one of the few models to demonstrate positive abstinence outcomes. Although little is known regarding the underlying mechanisms that make this program effective, one frequently cited aspect is social support. In order to gain insight into the processes at work in AA, this paper reviewed 24 papers examining the relationship between AA and social network variables. Various types of social support were included in the review such as structural support, functional support, general support, alcohol-specific support, and recovery helping. Overall, this review found that AA involvement is related to a variety of positive qualitative and quantitative changes in social support networks.

Although AA had the greatest impact on friend networks, it had less influence on networks consisting of family members or others. In addition, support from others in AA was found to be of great value to recovery, and individuals with harmful social networks supportive of drinking actually benefited the most from AA involvement. Furthermore, social support variables consistently mediated AA's impact on abstinence, suggesting that social support is a mechanism in the effectiveness of AA in promoting a sober lifestyle.

Recommendations are made for future research and clinical practice.

Much research has illustrated the limited effectiveness of traditional inpatient and outpatient alcohol treatments. Research comparing individuals receiving alcohol treatment with those receiving no treatment have found low treatment efficacy (Smith, 1983). Although conventional treatments may lead to short-term success, long-term studies suggest that these improvements are significantly reduced over time (Doyle, Delaney, & Tobin, 1994; Project MATCH Research Group, 1998b). Relapse rates are high, with the majority of clients having resumed pretreatment levels of alcohol use at one-year post-treatment (Miller & Sanchez-Craig, 1996). Furthermore, a literature review on the efficacy of substance abuse treatment indicates high one-year recidivism rates for treatments consisting of detoxification and adjacent therapies provided by health care professionals (Montgomery, Miller, & Tonigan, 1993).

There is currently a rising interest in mutual-help groups and self-help influenced treatments that offer an alternative to professional treatment and aftercare (Humphreys, 2004; Tonigan, Toscova, & Miller, 1996). Unlike traditional treatments programs, self-help or mutual-help

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groups are free, voluntarily-attended gatherings characterized by working together on a common problem, self-directed leadership, and the sharing of experiences (Humphreys). In general, self-help therapy has been reported to be more effective and less expensive than traditional therapy led by professionals (Humphreys). Perhaps the best known example of this mutual-help group approach to support abstinence is Alcoholics Anonymous (McCrary & Miller, 1993).

Alcoholics Anonymous (AA) was created in 1935 as a self-help group for individuals in alcohol recovery to maintain sobriety through its emphasis on spirituality, social support, and its progressive 12-steps. Today, more people turn to AA to recover from alcohol addiction than any other program or treatment (McCrary & Miller, 1993; Weisner, Greenfield, & Room, 1995), and worldwide membership is estimated at over 2,000,000 in 150 countries (Alcoholics Anonymous, 2006). Members are encouraged to progress towards recovery at their own pace through the sharing of experience, hope, and strength. AA members admit that they are powerless over alcohol through self-disclosure as they progress through the 12 steps (Emrick, Tonigan, Montgomery, & Little, 1993). Unlike conventional alcohol treatments, AA is not time-limited and lacks professional involvement, although AA can often be used in conjunction with other treatments involving professionals. The only membership prerequisite is a desire to stop drinking. AA charges no dues or fees from members and keeps no membership lists regarding its weekly meetings (Kurtz, 1979).

Numerous studies have found AA participation to be related to improved alcohol use outcomes (e.g., Humphreys, Moos, & Cohen, 1997; Longabaugh, Wirtz, Zweben, & Stout, 1998; Montgomery, Miller, & Tonigan, 1995; Ouimette, Moos, & Finney, 1998; Pisani, Fawcett, Clark, & McGuire, 1993). In addition, correlational meta-analyses of AA effectiveness studies concluded that AA participation was linked to positive drinking outcomes and modestly related to better psychological health, social functioning, employment situation, and legal situation (Emrick et al., 1993; Tonigan, Toscova, & Miller, 1996). However, not all outcome studies have found AA to be better than alternative treatments (Kownacki & Shadish, 1999). Researchers often debate the rigor and quality of the AA outcome literature (Emrick et al., 1993; Humphreys, 2004; McCrary & Miller, 1993; Tonigan et al.), which has traditionally been criticized for a lack of longitudinal research (Humphreys, 2004). However, most recently, Timko, DeBenedetti, and Billow (2006) provided a major step in filling this void; they reported a controlled trial in which individuals entering substance abuse treatment were randomly assigned to receive either standard referrals or intensive referrals to self-help groups. Participants referred to 12-step groups had better alcohol and drug use outcomes at 6 months, and 12-step involvement was a partial mediator in the relationship between condition and outcome.

The mechanisms at work in the relationship between AA involvement and abstinence are less clear, and it has been suggested that researchers examine the mechanisms in AA that help promote behavior change (Allen, 2000). Researchers have pointed to the mechanisms of spirituality (Forcehimes, 2004; Sandoz, 2001; Warfield & Goldstein, 1996; Winzelberg & Humphreys, 1999), self-efficacy (Connors, Tonigan, & Miller, 2001; Morgenstern, Labourie, McCrary, Kahler, & Frey, 1997; Owen et al., 2003), coping (Humphreys, Mankowski, Moos, & Finney, 1999; Morgenstern et al.), and social support, the focus of the present review. Social support is often regarded by treatment professionals as a significant benefit of self-help groups for substance abuse (Woff, Toumbourou, Herlihy, Hamilton, & Wales, 1996). AA additionally possesses various factors common to religious groups, social networks, and charitable organizations. For instance, members often stay in the organization long after they become sober. They tend to incorporate AA into daily life as a social resource and use AA as an opportunity for community service (Humphreys, Finney, & Moos, 1994). In fact, Humphreys and Noke (1997) noted that social support is such an integral component of AA that more of

its 12 steps deal with improving relationships than abstinence. For example, one step encourages members to compile a list of people they have harmed and make amends to these individuals (Alcoholics Anonymous, 2006).

Social support has been depicted as a meta-concept (Vaux, 1985) that includes numerous facets (Barrera, 1986). Although social support may be defined as a process in which aid is exchanged with others in order to facilitate adaptational goals (Cohen, Underwood, & Gottlieb, 2000), it is a complex concept that should be broken down into several different dimensions (Barrera, 2000; Cohen & Wills, 1985; Haber, Cohen, Lucas, & Baltes, 2007; Hobfall & Vaux, 1993).

As suggested in the social support literature, this paper makes the distinction between *structure* and *function*. *Structural support* quantifies the composition of an individual's social network and may include elements such as the number, the interconnectedness, and the different types of relationships (Cohen et al., 2000; Cohen & Wills, 1985). On the other hand, *functional support* assesses the extent to which network members provide meaningful and useful aid to each other (Cohen et al., Cohen & Wills). Regarding the relations between structural and functional aspects, social networks that are larger (Zywiak, Longabaugh, & Wirtz, 2002) and include more supportive relationships (MacDonald, 1987) may be more likely to promote effective recovery.

This paper also classifies social support by *generality* and *specificity* as suggested by researchers (see Cohen et al., 2000; Cohen & Wills, 1985). Whereas *general (global) support* promotes overall well-being, *specific support* is directly tied to certain functions (e.g., alcohol use or abstinence; Beattie & Longabaugh, 1999; Longabaugh & Beattie, 1986). A model created by Longabaugh, Beattie, Noel, Stout, & Malloy (1993) proposes that abstinence-specific support promotes abstinence, whereas general support promotes psychological functioning. Measures of *general support* typically combine numerous variables (both functional and structural) such as the number of people in a network and the meaningfulness of the support to obtain an overall assessment of network social support (Cohen et al., Cohen & Wills). People who receive more general support possess higher levels of subjective well-being, which is linked to improved post-substance abuse treatment outcomes (Beattie et al., 1993). In contrast, the effect of *specific social support* depends on whether the relationships provide positive encouragement specific to abstinence/recovery or negative encouragement specific to alcohol use (Falkin & Strauss, 2002). For instance, Zywiak et al. (2002) found that recovering individuals who remained in close contact with pre-treatment networks encouraging alcohol use were more likely to relapse. However, individuals whose networks reflected less use were more likely to maintain abstinence. When general and specific types of support are compared empirically, alcohol-specific support is found to be the more consistent predictor of treatment outcomes (Beattie & Longabaugh, 1999; Havassy et al., 1991).

This article will review the literature on social support/social network variables in Alcoholics Anonymous. A review of this type has not been previously published and is important to the field of clinical psychology for several reasons. Although prior studies have demonstrated the limited effectiveness of traditional alcohol treatments, AA is one of the few recovery programs to demonstrate positive abstinence outcomes. However, mainstream psychology has traditionally avoided these self-help interventions, which reside outside of professional settings and are based on volunteerism and anonymity. Clinical psychology has much to gain by focusing on this popular and frequently effective recovery model. An understanding of the mechanisms through which AA promotes abstinence could help clinicians develop more effective treatments than the existing paradigms. Understanding what types of people benefit the most from social support in AA could help treatment professionals make better-informed referrals for clients.

Method

Inclusion Criteria

Various databases were utilized in order to conduct a comprehensive literature search on social network variables in Alcoholics Anonymous (e.g., *PsycINFO*, *ScienceDirect*, *Web of Science*, *Social Science Citation Index*, *Medline*). Search terms included social networks, social support, interpersonal relationships, Alcoholics Anonymous, 12-step programs, and self-help groups. Reference sections of these selected articles were then examined to uncover other pertinent articles. Papers were chosen that included at least one analysis examining the relationship between social network constructs and AA variables (e.g., AA involvement or affiliation). Studies that solely examined AA and social network variables independently were excluded (e.g., Witbrodt & Kaskutas, 2005). In addition, this review did not focus specifically on the relationships between social networks and abstinence or AA and abstinence, as previously published reviews and meta-analyses have covered these domains (see Beattie, 2001; Kownacki & Shadish, 1999; Tonigan et al., 1996). However, the impact of AA-based social support/AA social networks was examined because this variable combines information on both social support and AA, and has not been examined in previous reviews. This current review focused on Alcoholics Anonymous, and studies exclusively examining other 12-step or mutual-help models were not included. However, studies examining AA in conjunction with other treatments or recovery programs (including other 12-step or self-help groups) were included. In addition, numerous studies combined AA, Narcotics Anonymous (NA), and Cocaine Anonymous (CA) into the overall category of 12-step groups, and these studies were also integrated into this review. Social support was defined broadly to include aspects such as structural support, functional support, general/global support, alcohol-specific support, and recovery helping. Finally, nonempirical, qualitative, or theoretical pieces were not included, in addition to dissertations and literature reviews.

Results

The inclusion criteria listed above produced a total of 24 articles focusing on social network variables in Alcoholics Anonymous. The results of this review were divided into several sections. First, information related to the designs and samples of the studies under review was described (see Tables 1–3). Second, findings related to social networks in AA were presented and organized into the categories of structural support, functional support, general support, alcohol-specific support, and recovery helping. Finally, the mediating effect of social support in the relationship between AA involvement and abstinence was explored. Meta-analytic techniques were considered but ultimately rejected because this type of analysis is only useful in cases where many studies have used similar analytic procedures to repeatedly examine one specific relationship between a particular set of variables. In the case of social network constructs in AA, researchers have used various types of analysis to examine relationships among a wide array of variables.

Designs and Samples

Table 1 summarizes the data on demographics for the studies reviewed. It is important to note that many of the studies failed to offer detailed sufficient demographic information. For the studies that reported this information, the mean age of participants was 41.5 years, and the great majority of the studies reviewed (87.5%) had more male participants than female. Although the very clear majority of samples (70.0%) were predominantly European American, the remaining 30.0% were predominantly African American. The average participant in the 24 articles had about 13 years of education, indicating slightly more than a high school education. Finally, half of the samples (50.0%) contained more employed than unemployed participants.

Table 2 contains information regarding the research designs employed in the 24 studies examined in this paper. Even though no articles were omitted due to age, studies meeting the inclusion criteria were not found prior to 1987. In this review, 58.3% of studies were published in the 1990's, 41.7% in the 2000's, and 4.2% in the 1980's. Sample sizes ranged widely from 45 to 3018 with a mean N of 729.5 and median N of 417. Regarding design, slightly more than half of the studies (58.3%) were longitudinal in nature, and slightly less than half (41.7%) were cross-sectional. More than half of the studies (62.5%) were based on convenience samples, and only a fifth of the studies under review (20.8%) employed random assignment.

Social support and alcohol information is listed in Table 3. These studies recruited participants from a wide variety of settings including the general community, inpatient treatments, outpatient treatments, aftercare settings, recovery homes, detoxification centers, referral centers, existing AA groups, self-help groups, and other settings. Half of all studies (50.0%) recruited their samples from a conventional treatment facility (e.g., detoxification, outpatient, or inpatient treatment). Overall, 62.5% of studies focused solely on alcohol, whereas 37.5% focused on alcohol and other drugs. Structural support, functional support, general support, alcohol-specific support, and recovery helping were the categories of social support examined in these studies, and functional support was the type researched most often (i.e., examined in 37.5% of studies). Numerous social support measures were utilized in these studies, with the *Life Stressors and Social Resources Inventory* the most popular (i.e., used in 25.0% of studies). In addition, 20.8% of the studies exclusively used nonstandardized questionnaires created by the authors to assess social support variables.

Structural Support

Structural support provides an assessment of the composition of one's social network (Cohen et al., 2000; Cohen & Wills, 1985). This type of support consists of social network aspects that are easy to quantify such as the number and the different types of relationships in a social network. The studies involving AA reviewed here primarily focus on the structural aspects of network size and composition.

Studies indicate that mutual-help groups assist in maintaining a stable number of friendships throughout the recovery process. Humphreys, Mavis, and Stoffelmayr (1994) found that African Americans who were not attending mutual-help groups (viz., AA and NA) at follow-up had fewer friends than reported one year earlier (intake mean = 1.94; follow-up mean = 1.59). However, those who did attend mutual-help groups reported an identical number of close friends at both time periods (mean = 2.45). Similar results were found in a large one-year longitudinal study of male veterans with little or no past experience in 12-step programs (viz., AA, NA, CA; Humphreys & Noke, 1997). Although the number of close friends at baseline did not differ based on 12-step participation, at follow-up only the people involved with 12-step groups (i.e., participated in at least two 12-step activities) had larger close friendship networks. At follow-up, those with 12-step attendance had an average of 2.32 close friends, whereas those with little or no attendance had 1.95 close friends on average. On the contrary, in *ANOVA analyses*, AA membership was not found to distinguish large from small networks in a sample of 45 problem drinkers (mean = 10.93 members; George & Tucker, 1996). However, unlike the two prior studies, the George and Tucker investigation was cross-sectional and therefore unable to detect changes in network size over time.

In addition to promoting a stable number of friendships, mutual-help groups may also improve social network composition. Humphreys and Noke (1997) found that men who attended AA, NA, or CA meetings showed a sharp increase in the number of 12-step friends over one year, one larger even than their increase in total number of friends (individuals with little or no 12-step involvement showed no increase in 12-step friendships). These mutual-help members therefore appear to have replaced non-12-step friends with 12-step friends. Compared to

non-12-step networks, social networks primarily composed of 12-step members were less likely to be small (16.8% vs. 23.1% had only one close friend), more likely to be large (34.9% vs. 27.3% had four or more close friends), contain those who abstain from alcohol (67.9% vs. 39.6%) and other drugs (29.3% vs. 19.3%) and involve more frequent contact. Flynn, Alvarez, Jason, Olson, and Davis (2006) examined a national sample of African Americans residing in mutual-help, self-run recovery homes (Oxford Houses) and found that NA ($\beta = .18$) but not AA affiliation ($\beta = -.04$) significantly predicted the percentage of individuals in recovery in one's social network; however, this effect may exist because participants reported greater NA than AA affiliation. They also found that 20% of network relationships consisted of 12-step friends and other residents of the group home. Finally, within a small recovery sample, social network structures did not differ with respect to different relationship categories (viz., significant others, other family members, friends, and school/work colleagues) based on one's treatment of choice (viz., AA, outpatient, no treatment; George & Tucker, 1996). The only exception was that outpatient participants were more likely to have significant others (50%) as compared to AA (10%) and untreated participants (30%). Unfortunately, these last two studies were cross-sectional in nature, and therefore unable to track changes in network composition across multiple time points.

Overall, studies examining structural types of support indicate that AA may help individuals avoid network erosion throughout recovery (Humphreys et al., 1994; Humphreys & Noke, 1997). Moreover, AA involvement may even increase the size of friendship networks through the inclusion of 12-step friendships (Humphreys & Noke). An interested pattern was noticed within this literature: the least rigorous studies (i.e., those utilizing cross-sectional designs and small sample sizes) provided the least support for the positive impact of AA on structural support, whereas the most rigorous studies (i.e., those utilizing longitudinal designs and large sample sizes) provided the most support for the positive effects of AA. This pattern further supports the notion that 12-step groups are able to positively alter social network structures.

Functional Support

In contrast to structural support, functional support assesses the extent to which meaningful and useful aid is provided by network members (Cohen et al., 2000; Cohen & Wills, 1985). This type of support refers to the more qualitative aspects of social support such as the quality and the significance of the support provided by other people. The AA literature has examined several types of functional support such as relationship quality, social resources, and affiliative feelings.

Several longitudinal studies indicate that AA involvement helps promote increased social resources and higher quality relationships involving friends. For example, in a structural equation model, greater mutual-help group involvement after inpatient treatment was associated with higher general friendship quality (viz., more close friends and greater frequency of contact with friends; $\beta = .31$) among 2,867 male veterans with little or no prior AA/CA/NA involvement (Humphreys et al., 1999). Another study conducted by Humphreys and colleagues (1997) found that among 628 previously untreated alcoholics, the number of AA meetings attended in the first three years following treatment predicted higher quality relationships (in which participants felt respected, understood, and supported) from friends at 8 years; however, the β was low (.01). Among male substance abuse inpatients, close friendship networks composed primarily of AA, NA, or CA members were rated higher on friendship resources (viz., friendships with more support, trust, and respect) than were non-12-step friendship networks (Humphreys & Noke, 1997). In addition, post-treatment 12-step involvement predicted one-year follow-up general friendship quality (viz., number of close friends, frequency of contact with close friends, friendship resources). Timko, Finney, and Moos (2005) found that the duration of AA attendance significantly predicted an increase in friend

resources (e.g., friends that really understand how you feel) at 1 ($\beta = .09$) and 8 year ($\beta = .14$) time periods. In another study, AA attendance predicted more friend resources (viz., the degree of trust and interest shared with friends; $\beta = .16$) and showed a trend toward predicting more intensive supportive ties (viz., the sum of the number of close friends and the number of persons that could be counted on for help; $\beta = .08$) at 3 years (Humphreys, Finney et al., 1994). However, neither friendship resources nor intensive supportive ties were associated with levels of AA attendance, perhaps because many friends of problem drinkers consume alcohol themselves and discourage seeking treatment.

In contrast to the relationship type of friends, researchers have not found a consistent relationship between AA involvement and social resources/relationship quality for other relationships (viz., partners and family members). For example, among individuals with no prior treatment, the number of AA meetings attended in the first three years did not significantly predict higher quality relationships with family members at the 8-year mark ($\beta = .00$); AA attendance had a small but significant effect on partner relationship quality ($\beta = .01$; Humphreys et al., 1997). Likewise, Timko et al. (2005) found that the duration of AA attendance failed to predict an increase in spouse/partner resources (e.g., count on spouse to help you; $\beta = .02$ at year 1 and $.07$ at year 8) or relative resources (e.g., confide in relatives; $\beta = .05$ at year 1 and $.00$ at year 8). Another study (Humphreys, Finney et al., 1994) found that baseline extended family resources (viz., respect for, trust in, and ability to count on relatives did not significantly distinguish between individuals with high versus low AA attendance (mean difference = $.24$). However, among individuals who attended AA, those with fewer partner resources at baseline (viz., poor quality of relationship with spouse or partner) became more highly involved in AA than did those who had more partner resources (mean difference = 2.31). It appears that AA may serve to provide the resources that an unsupportive partner is unable or unwilling to provide. These findings are not surprising: compared to AA relationships, family and partner relationships are likely to be more complicated, long-term, binding, and therefore less able to be affected by AA. Instead of focusing specifically on these relationships, AA places more emphasis on curbing drinking behaviors and promoting nondrinking friendships.

Two cross-sectional studies of recovering physicians found that those attending 12-step groups (mostly AA, NA, Drug Anonymous) reported high levels of affiliative feelings (viz., depth of cohesive feelings; affiliational support) for other 12-step members. Galanter, Talbot, Gallegos, and Rubenstone (1990) examined a group of 100 alcohol-impaired physicians in Atlanta who had been successfully treated. Participants reported that the intensity of affiliative feelings for the ten 12-step members they knew best (mean = 4.1) was significantly higher than for the 10 nonmembers they knew best (mean = 3.2), even though the latter group included friends and close associates. For example, 85 participants gave high scores to their AA relationships for “they care for me,” whereas that number was only 42 for non-AA relationships. Carlson, Dilts, and Radcliff (1994) attempted to replicate the previous study using 71 chemically dependent physicians referred to the Colorado state licensing authority between 1986 and 1991. Participants reported that affiliative feelings for familiar 12-step members (primarily AA and NA) were nearly the same as those expressed for familiar family, friends, and associates. However, no significant correlation ($r = .12$) was found between length of sobriety and affiliative feelings toward the ten 12-step program members known best. It is possible that the Atlanta study found relatively greater affiliative feelings associated with 12-step members than non-members because participants in that study were all recently out of treatment, whereas the Colorado participants were at various stages in their recovery. Recent 12-step members may be highly excited and passionate about their new 12-step relationships, whereas veteran 12-step members may have the ability to view these relationships with more objectivity.

In summary, results indicate that greater AA involvement is related to positive functional types of support such as higher friendship quality (Humphreys et al., 1997; Humphreys et al.,

1999) and more friend resources (Humphreys, Finney et al., 1994; Humphreys & Noke, 1997; Timko et al., 2005). In addition, studies suggest that affiliative feelings among AA members are comparable to or greater than feelings for close friends and family (Carlson et al., 1994; Galanter et al., 1990), even though AA relationships are often much newer. Finally, it is important to note that most of these positive functional support effects of AA participation were found for friend relationships but not relationships involving family or others.

General/global Support

As opposed to the more precise constructs of structural or functional support, some researchers prefer to obtain a more global assessment of social support, which has been found to be related to overall well-being (Cohen & Wills, 1985). In order to assess this construct, measures of general support typically combine numerous variables (both structural and functional) to produce an overall global assessment of support.

Several studies have demonstrated the relationship between AA involvement and general support, typically provided by friends. Ouimette and colleagues (1998) examined one-year outcomes among 3,018 male veteran substance abuse patients who had self-selected into treatment groups (viz., no aftercare, AA/NA, outpatient treatment, both AA/NA and outpatient treatment). Participants in the 12-step-only group (mean = 15.00) and the combined outpatient/12-step group (mean = 15.73) had greater support from friends at follow-up compared to the outpatient (mean = 13.19) and no aftercare groups (mean = 13.62). In addition, the number of 12-step meetings attended and a measure of 12-step involvement both predicted greater friend support (partial correlations = .22 and .15 respectively). Moreover, support from spouses and partners was significantly predicted by meeting attendance (partial correlation = .22). A cross-sectional German study (Bischof, Rumpf, Hapke, Meyer, & John, 2000) compared 93 individuals who received no services for alcohol dependence with 42 individuals who attended at least 50 self-help meetings (mostly AA). After remission, self-help participants had significantly higher mean social support scores with regards to friends (scores = 69.7 vs. 59.7) but not partners (scores = 66.2 vs. 67.7), family (scores = 73.6 vs. 64.7), or others (scores = 75.3 vs. 75.2 on the German translation of the *Social Support Appraisal Scale*). One study (Rush, 2002) examined the relationship between general support and having an AA sponsor (i.e., an AA member who serves as a mentor to a new member). Among female AA members, global measures of social support were related to having an AA sponsor, suggesting the importance of this supportive role. Finally, not all studies have found differences in general support based on AA attendance. In a small cross-sectional study (George & Tucker, 1996), no differences between participants who had chosen AA, outpatient, or no treatment for substance abuse were reported on three measures of global social support (viz., the *Norbeck Social Support Questionnaire*, *Interpersonal Support Evaluation List*, and the *Provision of Social Resources* scale).

By and large, the current literature demonstrates a relationship between AA involvement and higher general support (Ouimette et al., 1998; Bischof et al., 2000). Having a sponsor is additionally related to general support (Rush, 2002), which is logical as this unique and close type of friendship is one of the major benefits of AA. As with other types of social support, these relations with AA involvement were not found for non-friend relationships. Also, as noted earlier, the research with the most rigorous designs tended to produce significant effects in this area.

Alcohol-specific Support

Whereas general support relates to overall well-being, specific social support is directly tied to certain functions such as alcohol use or abstinence (Beattie & Longabaugh, 1999; Longabaugh & Beattie, 1986). Specific social support has either a positive or negative impact

on substance abuse recovery depending on whether the relationships encourage abstinence/recovery (e.g., support for reduced drinking) or alcohol use (e.g., support for drinking; Falkin & Strauss, 2002). The AA studies examined here focus on alcohol-specific support in relation to network composition, 12-step involvement, abstinence, and other treatment types.

One longitudinal study (Bond, Kaskutas, & Weisner, 2003) examined the relationship between AA-based support for reduced drinking and network composition. The authors found that at year one, individuals with AA-based support for reduced drinking had a significantly greater percentage of network members encouraging reduced drinking (81% vs. 77%) and a larger number of regular social contacts (17.10 vs. 10.03) compared to those with non-AA-based support. In addition, the proportion of an individual's social network made up of heavy or problem drinkers was lower for those with AA-based support for reducing drinking (10%) than for those with non-AA support (12%) or no support for reducing drinking (17%). This trend was reversed at three years following treatment entry, in which those with AA-based support reported a much higher proportion of heavy drinking contacts (22%) compared to or those with non-AA-based support (10%) or no support (12%). This may suggest that people who are involved in AA may actually be able to safely associate with some drinkers, but only after a considerable length of involvement in the 12-step program. Furthermore, this finding underscores the value of longitudinal investigations collecting data for several years.

Multiple studies have demonstrated the positive relationship between alcohol-specific support (typically from friends) and 12-step involvement. A large, one-year longitudinal study of male veterans lacking in AA/NA/CA involvement (Humphreys & Noke, 1997) found a small but significant relationship ($\beta = -.07$) between higher baseline support for substance use from friends (viz., alcohol and drug use of friends, friends' hindrance of abstinence) and lower posttreatment 12-step involvement. In addition, greater posttreatment 12-step involvement predicted lower support for substance use by friends at follow-up ($\beta = -.27$). However, substance-using and nonusing social networks had nearly identical scores (means = 3.9 vs. 3.7) for impeding efforts to abstain. In a similar study (Humphreys et al., 1999), friends' support for abstinence at baseline predicted more posttreatment self-help group involvement ($\beta = .15$), including AA, NA, or CA. This mutual-help involvement was also associated with greater support for abstinence by friends at follow-up ($\beta = .22$). Likewise, Majer, Jason, Ferrari, Venable, and Olson (2002) found that residents of a self-run recovery home who utilized a network of AA/NA members outside of 12-step meetings reported greater social support for abstinence on the *Important People Inventory* (mean score = 83.11) compared to residents who did not utilize these networks (mean score = 59.19). They also found that those residents with an AA/NA sponsor had higher levels of abstinence social support compared to residents with no sponsor (mean scores = 83.27 vs. 64.24). However, no differences in social support levels were found based on having a regular "homegroup" to attend or being involved in a "service" (viz., setting up a meeting, making coffee, taking on a 12-step duty).

Two longitudinal studies demonstrated the impact of recovery-specific support from AA members (as opposed to non-AA-based support) on abstinence. In a study with inpatient and outpatient participants, abstinence rates in the 30 days prior to follow-up were 37% for those with no support for their effort to reduce drinking, 52% for those with non-AA members' support for reduced drinking, and 78% for those with AA members' support for reduced drinking (Kaskutas, Bond, & Humphreys, 2002). The odds ratio of 30-day abstinence at follow-up was 3.40 comparing individuals with support for cutting down from AA members with those with no support; this ratio was 1.71 for support from non-AA members versus no such support. Similar patterns were obtained for 90-day abstinence and drinks per drinking day (i.e., the number of drinks consumed on average on a typical day of alcohol use). Similarly, Bond et al. (2003) found that at both one- and three-year time periods, recovering individuals with AA-based support for reducing drinking were the most likely to be abstinent in recent months

(i.e., the past 30 and 90 days). For instance, past 30-day sobriety rates at the three-year mark were 42% for participants with no support for reducing drinking, 58% for those receiving recovery-specific support from non-AA members, and 77% for those receiving recovery-specific support from AA-members. In addition, the probability of abstinence was reduced by one third for individuals switching from AA-based support at one-year to no support or non-AA-based support at year-three. Likewise, the odds of abstinence were about 1.6 times higher after gaining support for reducing drinking from others in AA over this two-year period.

One cross-sectional study examined positive, negative, and mixed types of alcohol-specific support among 45 individuals seeking AA, outpatient, or no treatment (George & Tucker, 1996). No significant group differences were found with regards to the total number of network members who drank with the participant, or total network feedback encouraging, discouraging, or providing mixed messages about participant drinking. Untreated participants received more encouragement to drink from significant others, other family members, and school/work colleagues than treated or AA participants. In addition, compared to untreated participants, AA participants received more total network messages of all types (viz., positive, negative, mixed) related to seeking help for alcohol abuse. AA participants also received more encouragement to seek help as compared to treated participants. Overall, the authors garnered some support for their hypothesis that the networks of AA participants would provide more conflicting messages about help-seeking.

Project MATCH produced multiple papers that examined network support for drinking and AA (see Longabaugh et al., 1998; Project MATCH Research Group, 1998a; Project MATCH Research Group, 1998b). This project was a randomized longitudinal study in which 1726 participants recruited from outpatient or aftercare settings were randomly placed in one of three treatments: Motivational Enhancement Therapy (MET), Cognitive Behavioral Therapy (CBT), or Twelve-Step Facilitation (TSF). TSF is of much pertinence to this paper because it attempts to engage participants in AA, which offers a ready-made social network supportive of abstinence. Twelve-week results indicated that among participants with higher network support for drinking prior to treatment, those randomly assigned to TSF consumed less alcohol (i.e., 91% maintained abstinence) than those assigned to MET (i.e., 82% maintained abstinence); however, among participants with lower support for drinking, TSF and MET abstinence rates were similar (85% vs. 87%, respectively; Longabaugh et al., 1998; Project MATCH Research Group, 1998a). This interaction effect was significant during the first 3 weeks of therapy for percentage of days abstinent and during the first 4 weeks for number of drinks consumed on a day of alcohol consumption. However, these effects were not found during the second and third months of treatment. This pattern of results may suggest that 12-step involvement helped participants initially break free from social networks supportive of drinking and engage in positive abstinent-supportive networks. However, over time MET participants also were able to develop a supportive network for abstaining and for reducing alcohol intake.

Project MATCH follow-up data (Project MATCH Research Group, 1998b) indicated that at year 3, participants with pre-treatment networks supportive of drinking did better in TSF than MET (η^2 [a conservative estimate of effect size] = .74 for percent days abstinent and .90 for drinks per drinking day). Among individuals with networks supportive of drinking, TSF was more effective than MET (i.e., 3-year abstinence rates were 83% vs. 66%), and AA involvement was a partial mediator in this relationship (Longabaugh et al., 1998). However, only a 4% difference in abstinence rates existed between TSF and MET conditions for participants with low support for alcohol use¹. Furthermore, results demonstrated that participants with high network support for drinking randomly assigned to TSF were most likely to participate in AA

¹Additional *post hoc* analyses indicated that this treatment by network support interaction was also significant for the TSF/CBT contrast for percentage of days abstinent

(i.e., 62% of TSF participated in AA, vs. 38% of MET and 25% of CBT participants), and AA involvement was related to less alcohol use at year 3 in this subsample (Longabaugh et al.). When the effect of AA involvement was partialled out, the significance of the relationship between assignment to TSF and support for drinking was greatly reduced (e.g., the difference in abstinence rates between TSF and MET decreased from 17% to 11%). Overall, the authors suggest that AA be strongly considered for individuals in recovery with networks supportive of drinking (Longabaugh et al.).

In brief, the largely longitudinal alcohol-specific support literature has reported some interesting findings. It is not surprising that studies found a negative relationship between AA involvement and alcohol-specific support (typically from friends; Humphreys et al., 1999; Humphreys & Noke, 1997; Majer et al., 2002), and that AA-based social support for reduced drinking relates to abstinence (Bond et al., 2003; Kaskutas et al., 2002). However, other findings are less intuitive: that individuals with AA-based support for reduced drinking would have more drinkers in their networks compared to those without this type of support (Bond et al.), that AA members would receive more mixed messages about seeking help for addiction than non-AA members (George & Tucker, 1996), and that individuals with the worst social support networks would do the best when randomly assigned to Twelve-Step Facilitation condition (Longabaugh et al., 1998; Project MATCH Research Group, 1998b). These findings all point to the notion that individuals with negative social networks can greatly benefit from involvement in AA, which effectively serves to provide the consistent, positive messages and supports for recovery that many individuals lack.

Recovery Helping

Although it may use a different social support terminology, a sizeable literature exists focusing on helping behaviors within AA recovery. What is referred to as helping can manifest as several different types of social support. For example, helping others learn how to maintain stable recovery could be referred to as support for abstinence. Many helping behaviors could also fall under functional support because of the important resources they provide to other people. Finally, helping is very analogous to general social support because it characteristically serves to promote overall well-being. Because of these similarities, it is important to overlook the differences in terminology and include these important studies. AA studies have generally focused on two types of helping behaviors: providing others with help and receiving help.

To start out with, several cross-sectional studies investigated the receipt of help as a major part of AA recovery. A brief report involving 59 volunteers from Chicago-area AA groups (Sheeren, 1988) found that receiving help from other AA members when tense or in need of help was able to distinguish between those who had relapsed (mean score for receiving help = 2.9) and those who had maintained abstinence over the past two years (mean score for receiving help = 4.1). In addition, substance-abusing physicians reported obtaining more actual assistance towards achieving a stable recovery from fellow 12-step members (mean = 17.2) than from their own family members (mean = 12.0) or treatment providers (mean = 13.6; Galanter et al., 1990). Overall, affirmative responses were given for the item “[they] helped me when I slipped [from abstinence], or might have” for 82 twelve-step members, 41 family members, and 43 treatment providers. In a replication of this study (Carlson et al., 1994), recovering physician participants again rated 12-step members as providing the most help towards recovery, followed by family members and professional treatment providers. Yet, no significant correlation ($r = .12$) was found between length of sobriety and aid from 12-step members. Additionally, Snow, Prochaska, and Rossi (1994) compared the use of helping relationships among those with no exposure, past exposure, and current exposure to AA. The current AA group (which included 51% of participants) reported significantly greater use of helping relationships (e.g., having someone to talk to about drinking problems) than the past

or no exposure groups ($\eta^2 = .17$); however, behavioral processes of change, including helping relationships, did not differ based on levels of AA attendance (viz., <1 meeting per week, 1–2 meetings per week, or 3+ meetings per week). In addition, those with high AA affiliation reported having more helping relationships than those with medium or low affiliation ($\eta^2 = .13$). The availability of helping relationships may indicate the restructuring of personal relationships with nondrinkers and a reliance on social support for sobriety. However, not all studies have found AA involvement to produce these benefits. Among individuals in substance abuse recovery who had self-selected into aftercare options, those who received outpatient treatment reported receiving significantly greater tangible aid on the *Interpersonal Support Evaluation List* (mean = 19.3) compared to untreated (mean = 8.1) and AA participants (mean = 7.7; George & Tucker, 1996). However, it is suggested that tangible/financial types of support are more frequently offered by close family, friends, and neighbors than AA contacts.

Instead of examining help received from others, several studies demonstrated the positive value of providing help to others in AA. For example, Galanter et al. (1990) reported that recovering physicians initially relied on professional help to achieve abstinence, but later on, the assistance they provided to others in recovery is what truly facilitated their abstinence. A large randomized alcohol recovery study (i.e., Project MATCH; Pagano, Friend, Tonigan, & Stout, 2004) reported that AA attendance significantly correlated ($r = .27$) with helping other alcoholics (i.e., through the endorsement of Step 12 or being a sponsor). Additionally, participants helping other AA members were significantly less likely to relapse in the year following treatment ($Wald X^2 = 74.3$), independent of the number of 12-step meetings attended. A smaller randomized longitudinal study of alcohol and/or drug-dependent individuals (Zemore, Kaskutas, & Ammon, 2004) used *structural equation modeling* to demonstrate that although baseline 12-step involvement (viz., AA, NA, CA) did not significantly predict helping others during treatment ($\beta = .10$), helping others did positively predict follow-up 12-step involvement ($\beta = .12$), with the effect of baseline 12-step involvement partialled out. Involvement in 12-step programs was also moderately correlated with sharing experiences about staying clean and sober ($r = .24$), sharing experiences about other problems ($r = .18$), and offering moral support and encouragement ($r = .18$). Correlations were slightly lower but still significant for explaining how to get help within and outside the program ($r = .14$). Furthermore, these results failed to generalize to those still drinking at follow-up, suggesting that AA members might not be prepared to help others with their recovery until they have achieved abstinence themselves.

One final study cross-sectionally investigated the role of AA in promoting helping in different arenas. With *structural equation modeling*, Zemore and Kaskutas (2004) found that AA involvement (viz., meeting attendance, behaviors, beliefs; $\beta = .26$) and achievement (viz., completion of the twelve steps and sponsoring another AA member; $\beta = .13$) significantly predicted recovery helping (viz., sharing experiences about staying clean and sober, giving moral support and encouragement, and explaining program rules). Additionally, these relationships did not disappear with accumulated sobriety. However, neither AA variable was significantly related to life helping (viz., helping others with issues not related to recovery; $\beta = .08$ for AA involvement and $.03$ for AA achievement) or community helping (viz., involvement in community projects that benefit others; $\beta = .03$ for AA involvement and $.05$ for AA achievement). In summary, findings from this study indicate that although AA successfully encourages individuals to assist others with their recovery, AA does not necessarily promote helping behaviors in other aspects of life.

To summarize, studies indicate that both the receipt and provision of help within AA can aid in recovery. Receiving help from others in AA relates to abstinence (Sheeren, 1998), and this source of aid may be more important to recovery than the receipt of help from individuals not affiliated with AA (Carlson et al., 1994; Galanter et al., 1990). Moreover, it was reported that providing help to others may be just as useful in maintaining abstinence as the receipt of help

(Galanter et al.). It is suggested that learning how to assist others may be a major benefit of the 12-step program.

Social Network Variables as Mediators

As mentioned earlier, many studies have demonstrated a relationship between AA involvement and abstinence. However, fewer studies have attempted to explore the mechanisms at work in this relationship. One important step is thus to examine whether social support mediates the relationship between AA involvement and abstinence. In order to understand this literature, it is necessary to briefly describe Baron and Kenney's (1986) framework for testing mediation. In this model, the influence of variable A (the initial variable) on variable B (the outcome) may be explained by a third variable known as variable C (the process variable). Complete mediation occurs when variable A no longer affects B after C has been controlled. Partial mediation occurs when the path from variables A to B (the total effect) is diminished in total size but still different from zero after the mediating variable is controlled. The mediational model is a causal one; therefore, the mediator is presumed to bring about the outcome and not vice versa.

Among male veterans with little or no prior involvement in 12-step groups, Humphreys et al. (1999) used *structural equation modeling* to illustrate the influence of three mediating variables (viz., general friendship quality, support for abstinence by friends, and active coping responses), two of which reflect aspects of social support. These mediators reduced the direct effect of mutual-help group involvement following inpatient treatment on reduced substance abuse at the one-year follow-up by almost half (47%). This mediational model additionally had good fit (e.g., *Goodness of Fit Index* = .95); thus, the authors argue that part of the effect of 12-step involvement on substance abuse abstinence is due to increases in general friendship quality and friends' support for abstinence.

Kaskutas et al. (2002) employed several different statistical techniques to test the mediational model. Using *structural equation modeling*, the authors found the direct influence of AA involvement on alcohol problem severity at one-year follow-up was lowered by 36% when the mediating path of social network pro-drinking influences was included. This mediational model also had adequate fit to the data (e.g., *Comparative Fit Index* = .90). In addition, *regression analyses* demonstrated that the influence of AA involvement on follow-up alcohol problem severity (with baseline problem severity controlled) was reduced by 33% when the mediators of network size and drinking influences were introduced. Although the variable of drinking influences was significant in this model predicting alcohol problem severity, network support size was not. *Logistic regression modeling* demonstrated that with baseline problem severity controlled for, the mediator of social network influences decreased the odds ratio by 0.56 for AA involvement's direct effect on 30-day abstinence at follow-up. Again, drinking influences was a significant predictor, but network support size was not. Overall, a measure of abstinence-specific support (i.e., network pro-drinking influences) had a greater impact on abstinence in this study than a non-specific structural measure (i.e., network size).

Lastly, *regression modeling* tested AA-based support for reduced drinking as a mediator of AA's impact on abstinence (Bond et al., 2003). *Sobel's Test of Mediation* indicated that support for reduced drinking from others in AA was a significant mediator in the relationship between AA involvement and abstinence three years post-treatment ($p = .047$). In fact, the number of AA contacts who supported reduced drinking decreased the magnitude of the coefficient for the direct link between AA involvement and 90-day abstinence by 16%. Furthermore, neither the number of non-AA contacts nor the total number of regular contacts who encouraged reductions in drinking mediated AA's impact on abstinence. These research findings indicate that it is not simply alcohol-specific support that appears to lead to abstinence, but actually support provided by similar others in recovery.

Discussion

In summary, this review examined 24 studies containing data regarding the relationship between social network variables and AA recovery. This discussion will first explore the limitations of these studies. Next the most consistent and noteworthy findings that arose across the different areas of support will be summarized and discussed. Finally, the clinical implications of these findings will be presented.

Limitations and suggestions

Several limitations specific to the measurement of social support were discovered within the existing body of literature. In 1984, Cobb and Jones described the social support literature as having fuzzy concepts, lacking sufficient definitions, utilizing inconsistent methods of measurement, and possessing weak research designs. Although the literature has certainly expanded much over the past two decades, Cobb and Jones's criticisms are still pertinent. First, multiple studies did not clearly define the social support terminology they utilized. It is very important to define and operationalize constructs when studying social support because terms can often represent different concepts (e.g., there is little consistency in how general support is defined and measured). In addition, different social support terms are frequently utilized to express the same idea (e.g., helping, functional support, and tangible aid). Defining terms is especially important given that multiple literature reviews have concluded that the impact of social support on outcomes may depend on the researcher's operationalization of social support (Barrera, 1985; Cohen & Wills, 1985). However, this review generally tried to maintain the language as used in the publications in the attempt to avoid misinterpretation.

It is also suggested that future AA studies branch out and examine more precise (less broad) types of social support that have not been thoroughly examined. For example, AA researchers could examine social integration/belonging support (i.e., a sense of belonging in a group), emotional support (i.e., comfort and caring in relationships), encouragement or esteem support (i.e., boosting one's confidence), informational support/appraisal support (i.e., providing advice to deal with stressors), and tangible support (i.e., concrete aid such as money or services; see Cohen & Wills, 1985; Cutrona & Russell, 1990).

Previous authors have criticized the rigor of AA studies (see Emrick et al., 1993; Humphreys, 2004; McCrady & Miller, 1993; Tonigan et al., 1996), and similarly, this review found that the majority of the studies examined here utilized less than optimal study designs and methodologies. Many studies included cross-sectional designs, indicating the inability to test predictability over time and infer any directionality or causality related to social support and AA. Also, the vast majority of studies employed convenience samples and nonrandom assignment (e.g., pre-existing samples, self selection into groups), thereby increasing the possibility of sampling biases. It is therefore suggested that to increase rigor, future studies make use of longitudinal designs, probability or random sampling, and randomly assign participants into AA and other conditions (e.g., inpatient, outpatient, no treatment). Furthermore, the majority of samples were comprised mostly of men and European Americans, and none of the studies examined adolescents. Although some of the studies were predominantly African American, none of the samples had majorities of any other ethnic group. It is suggested that future AA samples include a greater proportion of women, ethnic minorities, and adolescents in order to increase the generalizability of their findings to the diverse population of individuals in recovery that exists in the real world. Finally, a number of studies used self-created measures while failing to provide any data related to validity or reliability, which therefore brings into question the psychometric soundness of their findings. Nonetheless, despite these methodological limitations, studies with the most rigorous designs tended to find the most effects as compared to studies with less rigorous designs, indicating that these design flaws may in fact reduce significance as opposed to producing inflated effects.

Summary and implications

Overall, the AA literature is characterized by inconsistent findings, with researchers continuing to debate the role of AA in promoting abstinence (Emrick et al., 1993; Humphreys, 2004; Kownacki & Shadish, 1999; McCrady & Miller, 1993; Tonigan et al., 1996). Similarly, this initial review on social support and AA indicates that relationships between social network characteristics and AA variables are frequently inconsistent and not agreed upon. However, there were several significant and consistent themes that arose throughout this review, which are discussed below.

On the whole, it is clear that AA involvement supports positive changes in the social support one receives. This investigation found that greater AA involvement is related to higher friendship quality (Humphreys et al., 1999; Humphreys et al., 1997), more friend resources (Humphreys, Finney et al., 1994; Timko et al., 2005), greater friend support (Bischof et al., 2000; Ouimette et al., 1998), lower support for alcohol use by friends (Humphreys & Noke, 1997), and greater support for abstinence by friends (Humphreys et al., 1999). These findings are further supported by qualitative findings suggesting that self-help group friendships are more respectful, supportive, and trusting than those previous to joining AA (Kus, 1990).

In addition to increasing positive types of support, AA involvement quantitatively promotes larger networks containing others in recovery. Although people recovering from substance abuse often reduce certain friendships, particularly with those who continue to use alcohol or drugs (Ribisl, 1997), this review found no evidence of overall social network erosion as a part of AA recovery (Humphreys, Mavis et al., 1994). Instead, findings suggested that over time, individuals utilizing AA may increase their number of friendships by adding new positive 12-step friendships to their networks (Humphreys & Noke, 1997). This pattern of results is similar to general substance abuse literature suggesting that people in recovery tend to replace substance using friends with individuals who abstain (Kus, 1991; Mohr, Averno, Kenny, & Del Boca, 2001), which is important because individuals with substance-using networks are more prone to relapse (Hawkins & Fraser, 1987; Zywiak et al., 2002). Likewise, it has been hypothesized that social support may effectively reduce substance use through increasing contact with nonusers and lessening involvement with users (Azrin, Donohue, Besalel, Kogan, & Acierno, 1994).

The current literature suggests that AA participation is related to important recovery-related helping behaviors (Carlson et al., 1994; Galanter et al., 1990; Pagano et al., 2004; Sheeren, 1988; Snow et al., 1994; Zemore & Kaskutas, 2004; Zemore et al., 2004). In particular, providing aid to others appears to be highly valuable part of recovery (Carlson et al.; Galanter et al.; Snow et al.). This concept is illustrated in Reissman's (1965; 1976) *Helper Therapy Principle*, which maintains that helping others serves to help the helper. Helping others may promote effective recovery through the development of a sense of trust and purpose, and a shift of focus from self to others (Carroll, 1993; Humphreys & Kaskutas, 1995). AA's strong emphasis on helping others is reflected in both its 12th step and its tradition of sponsorship, variables related to social support (Pagano et al.; Zemore & Kaskutas) and abstinence (Emrick et al., 1993). The 12th step focuses on service and bringing the message of AA to others with alcohol problems (Alcoholics Anonymous, 2006), and 12th step committees organized around this ideal provide services for individuals who want to talk to or meet with an AA member. Sponsorship, which provides AA mentorship to new members, is additionally related to positive outcomes. For instance, a 10-year follow-up study found the highest alcoholism remission rates (91%) among individuals who sponsored other AA members (Cross, Morgan, Mooney, Martin, & Rafter, 1990). Furthermore, although *being* an AA/NA sponsor was found to relate to one-year abstinence rates, *having* an AA/NA sponsor did not maintain a relationship with abstinence (Crape, Latkin, Laris, & Knowlton, 2002).

It is important to note that throughout this review, these positive effects for social support and AA were mainly found when the focus was on friend relationships. In several instances, effects of social support and AA were specifically not found for non-friend relationships: spouse/partner resources (Timko et al., 2005) and social support from partners, family, or others (Bischof et al., 2000). This emphasis on the value of friends in AA recovery is in contrast to numerous studies suggesting the positive impact of family on substance use and recovery (e.g., Barrera, Chassin, & Rogosch, 1993; Mason & Windle, 2001; Wills, Vaccaro, & McNamara, 1993), including spouses (e.g., Beattie, 2001; Holmila, 1991; Rumpf, Bischof, Hapke, Meyer, & John, 2002). However, AA is less likely to impact on family or other networks, most likely because many are unwilling or unable to change family relationships with family members with whom they may be very close or dependent, even if the relationships are negative as far as promoting alcohol abuse. Humphreys, Finney et al. (1994) even suggested that AA involvement may sometimes be incompatible with other relationships, such as a spouse who declines to attend Al-Anon or senses competition with the new AA relationships. Additionally, AA relationships are likely to be newer and therefore more amenable to change.

Any discussion of family relationships and AA would not be complete without a mention of Al-Anon, a mutual-help organization based off the principles of AA for family members of alcoholics (Humphreys, 2004). Al-Anon endorses the notions that alcoholism is a disease that is arrested through complete abstinence, and that alcohol recovery is a spiritual progression. Al-Anon uses the same 12 steps of AA; however, the first step focuses on accepting powerlessness over the family member's alcohol addiction as opposed to the self. The organization emphasizes two major concepts: *enabling* and *loving detachment*. Enabling facilitates continued drinking by the alcoholic, and loving detachment refers to giving up efforts to control the alcoholic's behavior while maintaining a loving attitude. As Al-Anon members learn to spend less energy enabling and attempting to change the alcoholic, they become better able to focus on their own well-being (Ablon, 1974). The majority of women in Al-Anon are married to an alcoholic who attends AA (e.g., Rosovsky, Garcia, Gutierrez, & Casanova, 1992), and treatment centers commonly refer husband-wife pairs to these two groups (Asher, 1992). One study (Wright & Scott, 1978) reported a 40-point advantage in abstinence rates (86% vs. 46%) for husbands with wives participating in Al-Anon compared to couples not involved in Al-Anon. Thus, although AA participation has a direct influence on friend networks, it may also indirectly change families to the extent that AA participation promotes Al-Anon participation in a spouse.

Another important finding in this review is that social support variables (viz., affiliative feelings, support for abstinence, and helping behaviors) had a greater impact when provided by AA members as opposed to non-AA members (Bond et al., 2003; Carlson et al., 1994; Kaskutas et al., 2002). Furthermore, it is likely that within AA, having an AA sponsor may be related to even better social support outcomes (Majer et al., 2002; Rush, 2002). These findings suggest that, concerning support for recovery, not just any type of friend support will suffice. As emphasized in Thoits' (1995) theory of social support, the match between appropriate sources of support and the individual's needs is imperative. It is believed that AA members are able to provide certain types of support that are more relevant and useful to recovery than non-members are able to provide (e.g., teaching the skills necessary to maintain abstinence).

One especially noteworthy finding is that social network variables play a mediating role in the relationship between AA involvement and abstinence. Using various statistical techniques such as *linear regression*, *structural equation modeling*, and *logistic regression*, longitudinal research illustrated that general friendship quality, friends' support for abstinence, (Humphreys et al., 1999), lacking social network pro-drinking influences (Kaskutas et al., 2002), and AA member-based support for reduced drinking (Bond et al., 2003) all act as significant mediators in the relationship between AA involvement and abstinence over time. These studies also

suggest that general types of support are less vital to recovery than abstinence-specific support, and in particular, abstinence-specific support provided by similar others in recovery. Moreover, these mediational effects are consistent with research indicating that social support partially mediated the relationship between longer participation in a dual-diagnosis-focused 12-step mutual aid group (Double Trouble in Recovery) and less substance use (Laudet, Cleland, Magura, Vogel, & Knight, 2004). We therefore conclude that social support does partially explain the ability of the 12-step program to promote abstinence.

Longabaugh et al.'s (1993) theory of social support posits that abstinence-specific support promotes abstinence whereas general support only promotes psychological functioning. However, present findings indicate that both general and specific types of social support are available in AA, and both are significant mediators in the relationship between AA involvement and abstinence. These findings evoke the distinction made in AA between the objectives of abstinence and sobriety. Whereas abstinence is a concrete observable measure of not drinking, sobriety is more of a hypothetical construct (Venner & Feldstein, 2005). Sobriety may be thought of as the comfort or satisfaction with abstinence; it is a healthy lifestyle and not just the removal of a negative behavior. As a whole, 12-step groups emphasize the superiority of a living a healthy and sober lifestyle over simply achieving abstinence; this might explain why much of AA-related social support is of the general support variety and promotes overall well-being in addition to abstinence. It is suggested that AA leads to the formation of healthy friendships (and the loss of negative ones) with experientially similar others with whom to spend quality social time engaged in sober activities. These friends provide each other with positive global support towards well-being, which can help promote recovery (Beattie et al., 1993). Additionally, more specific types of social support may reduce substance use through the sharing of relevant recovery experiences and techniques and the provision of advice for managing stressors that can lead to relapse (viz., recovery helping; Sarason, Levine, Basham, & Sarason, 1983). Through these important mechanisms, AA members provide each other with specific support for maintained abstinence and recovery, which has been shown to lead to abstinence (Havassy et al., 1991; Zywiak et al., 2002).

A final objective of this review is to ascertain the type of person that is most likely to benefit from AA. Results suggest that individuals who have negative social networks providing high levels of support for drinking receive the most benefit from 12-step programs (Bond et al., 2003; Project MATCH Research Group, 1997). Perhaps AA has such a powerful impact on recovery that members can maintain some relationships with friends who drink and be protected against their negative influences. Furthermore, research not only indicates that AA may be most effective for those with networks supportive of drinking, it also indicates that these individuals (i.e., who receive conflicting messages regarding recovery from their social networks) are the most likely to participate in AA (George & Tucker, 1996). Overall, recovering individuals who do not receive social support and consistent messages about the value of abstinence have the most incentive to turn to mutual aid groups to receive these vital types of support (Tonigan & Toscova, 1998). Former addicts who have friends and family who support their recovery therefore have less need for AA because they already possess supportive social contacts. This pattern is in stark contrast to most clinical interventions, in which individuals who are the highest functioning and need the help the least are the ones who tend to receive the most benefit.

Suggestions for clinical practice

Several recommendations are made for clinical practice based on the findings presented in this review. It is suggested that clinicians become more educated about 12-step programs (e.g., the steps, principles, language, culture, etc.) so that they are able to make accurate and informed referrals. The division between AA and clinical psychologists should be bridged so that

substance abuse treatment clients can receive the true breadth of available and effective assistance. In fact, it has been argued that psychologists should become more knowledgeable regarding substance abuse and treatment in general (Miller & Brown, 1997). Another general suggestion is that people's social networks can play a major role in treatment, especially given the impact of friends and network size. The involvement of family members, work colleagues, friends, and relatives in therapy as part of a continuing social network team has been described as *network therapy* (see Galanter, 1993). Longabaugh et al. (1998) suggested that treatment providers and referral agencies make every effort to encourage AA participation for clients with networks supportive of drinking because they are the ones that need the assistance the most and who are able to derive the most benefit from AA.

For people who are reluctant to turn to AA to maintain abstinence, other viable options do exist. Treatment providers could help these individuals realize the value of changing their social networks and their lifestyles to include social support for abstinence (Longabaugh et al., 1998), in particular support from others going through substance abuse recovery. Focusing on other places to go to develop a network supportive of recovery might present another option, particularly for individuals who have substance-using friends. Faith-based community organizations have long provided support to individuals in need (e.g., Carlson et al., 1994; Maton, 1987; Maton, 2002; Maton & Pargament, 1987). Therapeutic communities, halfway homes, and recovery homes provide more structured settings that often involve social support from similar others as a major factor in their treatment models (e.g., Booth, Russell, Soucek, & Laughlin, 1992; Carlson, 1984; Jason, Davis, & Ferrari, 2007). In addition, numerous other spiritual and secular mutual-aid groups for substance abuse recovery exist worldwide that represent a diversity of ideologies and serve a variety of different populations (see Humphreys, 2004; Room, 1998; Tonigan & Toscova, 1998 for reviews).

In sum, this review examined 24 studies containing data regarding the relationship between social support and Alcoholics Anonymous. The current body of literature clearly demonstrates that AA involvement leads to more positive friendship resources and produces larger social networks containing others in recovery who provide support for abstinence. Many of these significant effects were only found for friends, which is not surprising given the focus of AA and the more flexible nature of friendships as compared to family. In addition, support for abstinence had the greatest impact on abstinence when provided by others in AA, indicating the value of these recovery-specific types of relationships. Several of these social support variables were found to mediate the relationship between AA involvement and abstinence; thus, social support is a mechanism through which AA promotes a sober lifestyle. Most interestingly, research consistently shows that individuals who have the worst social support networks (i.e., networks that provide the most support for drinking) actually have the best outcomes in AA. It is therefore strongly recommended that individuals dealing with alcohol and drug abuse problems seek out recovery options that involve social support, especially for people whose existing social networks fail to promote their abstinence.

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Table 1

Demographic information for the 24 studies examined in this review.

Authors	Mean age	Predominant gender	Predominant race/ ethnicity	Predominant/ mean marital status	Predominant/ mean educational status	Predominant/ mean employment status
Bischof, Rumpf, Hapke, Meyer, & John (2000)	Natural Recovery (NR): 49.2, Self-Help Group (SHG): 54.1	NR: 26.9% f, SHG: 16.7% f	not reported	NR: 58.1% married, SHG: 78.6% married	not reported	NR: 46.2% employed, SHG: 57.1% employed
Bond, Kaskutas, & Weisner (2003)	38	56% m	60% European American	66% single/divorced	82% high school graduate or more	not reported
Carlson, Dilts, & Radcliff (1994)	46.5	88% m	not reported	72% married	100% medical degrees	not reported
Flynn, Alvarez, Jason, Olson, & Davis, (2006)	40.8	66.1% m	100% African American	47.4% single/ never married	12.4 years	70% full time
Galanter, Talbott, Gallegos, & Rubenstone (1990)	46.3	93% m	not reported	70% married	100% medical degrees	not reported
George & Tucker (1996)	34.1	62.2% m	93.3% European American	22.8% married	13.8 years	not reported
Humphreys, Finney, & Moos (1994)	34.8	50.1% f	82% European American	21.9% married	13.3 years	45.0% employed
Humphreys, Mankowski, Moos, & Finney (1999)	42.9	100% m	49.0% African American	81.8% not married	not reported	76.1% unemployed
Humphreys, Mavis, & Stoffelmayr (1994)	31	71.9% m	51.6% European American	57.7% single	11.9 years	50.2% full time
Humphreys, Moos, & Cohen (1997)	34.3	50.1% m	83.3% European American	not reported	13.3 years	34.9 weeks employed
Humphreys & Noke (1997)	52.9	100% m	49.0% African American	55.9% divorced/ separated	12.7 years	79% full time
Kaskutas, Bond, & Humphreys (2002)	38	58% m	67% African American	50% single/divorced	83% high school graduate	51% full time
Longabaugh, Wirtz, Zweiben, & Stout (1998)	38.6	72% m	80% European American	43% married/ cohabiting	not reported	69% employed
Majer, Jason, Ferrari, Venable, & Olson (2002)	37.5	57% m	69% African American	60% single	87% high school graduate	not reported
Ouimette, Moos, & Finney (1998)	43	100% m	49% African American	39% divorced	12.7 years	76.2% unemployed
Pagano, Friend, Tonigan, & Stout (2004)	40.2	76% m	83% European American	65% married	13.3 years	not reported
Project MATCH Research Group (1998a)	Outpatient (O): 38.9, Aftercare (A): 41.9	O: 72% m, A: 80% m	O: 80% European American, A: 80% European American	O: 64% single, A: 66% single	O: 13.4 years, A: 13.1 years	O: 51% employed, A: 48% employed
Project MATCH Research Group (1998b)	38.6	72% m	80% European American	43% married/ cohabiting	not reported	69% employed
Rush (2002)	47	100% f	94% European American	married 18 years		

Authors	Mean age	Predominant gender	Predominant race/ ethnicity	Predominant/ mean marital status	Predominant/ mean educational status	Predominant/ mean employment status
Sheeren (1988)	range: 41– 60	50.8% m		not reported	100% high school graduate or more	not reported
Snow, Prochaska, & Rossi (1994)	44.1	61% m	97.8% European American	53% married	13.8 years	not reported
Timko, Finney, & Moos (2005)	women: 34.12, men: 34.91	50.6% m	women: 86.1% European American, men: 75.5% European American	women: 21.7% married, men: 25.8% married	women: 13.13 years, men: 13.26 years	women: 40.0% employed, men: 49.6% employed
Zemore & Kaskutas (2004)	47	60% m	83% European American	not reported	not reported	not reported
Zemore, Kaskutas, & Ammon (2004)	41	58.1% m	51% European American	not reported	not reported	not reported

Table 2
Design information for the 24 studies examined in this review.

Authors	Sample size	Research design	Sampling design	Assignment
Bischof, Rumpf, Hapke, Meyer, & John (2000)	135	cross-sectional	convenience	none
Bond, Kaskutas, & Weisner (2003)	655	longitudinal	consecutive	none
Carlson, Dilts, & Radcliff (1994)	71	cross-sectional	entire population	none
Flynn, Alvarez, Jason, Olson, & Davis, (2006)	274	cross-sectional	convenience	none
Galanter, Talbott, Gallegos, & Rubenstone (1990)	100	cross-sectional	cohort	none
George & Tucker (1996)	45	cross-sectional	convenience	none
Humphreys, Finney, & Moos (1994)	439	longitudinal	convenience	none
Humphreys, Mankowski, Moos, & Finney (1999)	2867	longitudinal	consecutive	none
Humphreys, Mavis, & Stoffelmayr (1994)	558	longitudinal	consecutive	none
Humphreys, Moos, & Cohen (1997)	395	longitudinal	convenience	none
Humphreys & Noke (1997)	2337	longitudinal	consecutive	none
Kaskutas, Bond, & Humphreys (2002)	654	longitudinal	consecutive	none
Longabaugh, Wirtz, Zweben, & Stout (1998)	806	longitudinal	convenience	random
Majer, Jason, Ferrari, Venable, & Olson (2002)	100	cross-sectional	convenience	none
Ouimette, Moos, & Finney (1998)	3018	longitudinal	consecutive	none
Pagano, Friend, Tonigan, & Stout (2004)	1501	longitudinal	convenience	random
Project MATCH Research Group (1998a)	1726	longitudinal	convenience	random
Project MATCH Research Group (1998b)	506	longitudinal	convenience	random
Rush (2002)	125	cross-sectional	convenience	none
Sheeren (1988)	59	cross-sectional	convenience	none
Snow, Prochaska, & Rossi (1994)	191	cross-sectional	convenience	none
Timko, Finney, & Moos (2005)	466	longitudinal	convenience	none
Zemore & Kaskutas (2004)	200	cross-sectional	stratified convenience	none
Zemore, Kaskutas, & Ammon (2004)	279	longitudinal	convenience	random

Table 3

Social support and alcohol information for the 24 studies examined in this review.

Authors	Sample origin	Substances of focus	Types of social support	Social support instrument
Bischof, Rumpf, Hapke, Meyer, & John (2000)	community	alcohol	functional support, general support	Social Support Appraisal Scale (German translation)
Bond, Kaskutas, & Weisner (2003)	inpatient and outpatient	alcohol	alcohol-specific support	questionnaire created by authors
Carlson, Dilts, & Radcliff (1994)	referrals to treatment	alcohol and drugs	recovery helping, functional support	questionnaire created by authors
Flynn, Alvarez, Jason, Olson, & Davis, (2006)	recovery community	alcohol and drugs	structural support	Important People and Activities Inventory
Galanter, Talbott, Gallegos, & Rubenstone (1990)	post-treatment	alcohol and drugs	functional support, recovery helping	questionnaire created by authors
George & Tucker (1996)	community, nontreatment	alcohol	structural support, functional support, general support, alcohol-specific support	Norbeck Social Support Questionnaire, Interpersonal Support Evaluation List, Provision of Social Relations Scale
Humphreys, Finney, & Moos (1994)	detox and referral centers	alcohol	functional support	Life Stressors and Social Resources Inventory
Humphreys, Mankowski, Moos, & Finney (1999)	inpatient	alcohol and drugs	functional support, alcohol-specific support	Life Stressors and Social Resources Inventory, Social Network Social Influence Scale
Humphreys, Mavis, & Stoffelmayr (1994)	substance abuse treatment agencies	alcohol and drugs	structural support	Addiction Severity Index
Humphreys, Moos, & Cohen (1997)	detox and referral centers	alcohol	functional support	Life Stressors and Social Resources Inventory
Humphreys & Noke (1997)	inpatient	alcohol and drugs	functional support, alcohol-specific support	Life Stressors and Social Resources Inventory, Social Network Social Influence Scale
Kaskutas, Bond, & Humphreys (2002)	outpatient and aftercare	alcohol	alcohol-specific support	questionnaire created by authors
Longabaugh, Wirtz, Zweben, & Stout (1998)	outpatient and aftercare	alcohol	alcohol-specific support	Important People and Activities Inventory
Majer, Jason, Ferrari, Venable, & Olson (2002)	recovery community	alcohol and drugs	alcohol-specific support, structural support	Important People and Activities Inventory
Ouimette, Moos, & Finney (1998)	inpatient	alcohol and drugs	general support	Life Stressors and Social Resources Inventory
Pagano, Friend, Tonigan, & Stout (2004)	outpatient and aftercare	alcohol	recovery helping	Alcoholics Anonymous Involvement Scale
Project MATCH Research Group (1998a)	outpatient and aftercare	alcohol	alcohol-specific support	Important People and Activities Inventory
Project MATCH Research Group (1998b)	outpatient	alcohol	alcohol-specific support	Important People and Activities Inventory
Rush (2002)	existing AA groups	alcohol	structural support	Social Support Network Inventory
Sheeren (1988)	existing AA groups	alcohol	recovery helping	questionnaire created by authors
Snow, Prochaska, & Rossi (1994)	community	alcohol	recovery helping	Processes of Change Questionnaire
Timko, Finney, & Moos (2005)	detox and referral centers	alcohol	functional support	Life Stressors and Social Resources Inventory
Zemore & Kaskutas (2004)	self-help groups, treatment programs, others	alcohol	recovery helping	self-report checklist
Zemore, Kaskutas, & Ammon (2004)	community	alcohol and drugs	helping relationships	questionnaire created by authors