



**ARE ALL SUBSTANCE ABUSE
TREATMENTS
EQUALLY EFFECTIVE ?**

CPLT

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EQUALLY EFFECTIVE ?**

BY

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**Comité permanent de lutte à la toxicomanie
Mai 2001**

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PREFACE

The *Comité permanent de lutte à la toxicomanie*'s mandate is primarily to advise the Health and Social Services Minister and the Delegated Minister for Health, Social Services and Youth Protection on the principal strategies to adopt in the fight against substance abuse, and to suggest priorities with regard to action or areas of intervention. In order to fulfill its mandate, the *Comité* studies the evolution of the causes and adverse effects of drug abuse in Quebec. It focuses both on problems linked to the use and abuse of psychoactive substances and on the measures that should be taken to find solutions to these problems. The *Comité permanent* takes into consideration research data, the opinions of the various stakeholders and experts involved in the field, and those of the general population of Quebec.

In keeping with its mandate, the *Comité* regularly undertakes studies aimed at better understanding and clarifying links between drug addiction and certain other problems. In this perspective, it commissioned the study on "substance abuse treatments effectiveness".

INTRODUCTION

In 1997, the initial results of the largest and most comprehensive (and expensive) clinical investigation into treatment efficacy ever undertaken were published. This study, named Project MATCH (Matching Alcoholism Treatment to Client Heterogeneity), represented the best effort of a team of the brightest American minds in substance abuse research to solve two questions that had confounded the field for decades. The first concerns differential treatment effects. Certain conceptually different treatments (e.g., cognitive-behavioural therapy, community reinforcement, and social skills training) reliably result in better outcomes compared to no treatment in controlled clinical trials. Yet whenever these approaches have been compared, no single treatment approach has emerged significantly more effective than another for all clients. The second enigma concerns treatment effectiveness in general. After decades of treatment research and development and regardless of the type of program offered, the posttreatment prognosis for substance abuse problems remains mediocre at best. In fact, there is troubling evidence that ‘successful treatment’ might occur only a little more frequently than spontaneous remission from substance abuse in the absence of any treatment.

In the early 1980’s, addiction scholars began to propose a hypothesis to explain these perplexing observations. It was posited that with exposure to any given treatment, there would be those who would benefit, those who would remain essentially unchanged and those who would deteriorate. The individuals who benefit from a specific treatment are considered appropriately ‘matched’ while those who do not benefit are considered ‘mismatched’. When comparing treatments, there would always be individuals who thrived in a particular treatment, remained unchanged or who got worse. Overall, the average effect of any treatment would always be approximately equivalent to any other. That would explain the first riddle. Moreover, if clients could be more effectively referred to the type treatment that they were ideally ‘matched’ to based upon some identifiable individual characteristic (i.e., client - treatment match), outcomes would significantly improve. Better outcomes with treatment would address the second problem. **This is essentially the ‘matching hypothesis’: individuals who are appropriately matched to treatment will show superior outcomes relative to those who are unmatched or mismatched.** The issue is not which treatment is better than another for all individuals; rather, the more relevant question is

which treatment is best for which type of individual and under which conditions ? Early small-scale research into the matching hypothesis provided promising preliminary results.

Project MATCH proposed to thoroughly investigate the matching hypothesis. The eight year project monopolised unimaginable expert and financial resources (\$30 million US and counting). It studied over a thousand clients from alcoholism treatment centres located across the United States who were provided at random one of three conceptually different structured treatment regimens, cognitive behavioural therapy (CBT), brief motivational enhancement therapy (MET), and Twelve-Step Facilitation (TSF). These treatments were provided as either a primary treatment or as an aftercare program following standard intensive outpatient treatment. Ten major and some 60 secondary matching hypotheses were carefully formulated based upon the promising matching data from the extant substance abuse literature. Such individual attributes as psychological disturbance, cognitive functioning, social support network and gender were investigated for their usefulness as characteristics more matching to specific treatments. Clients were randomised into treatment, and an impressively rigorous methodology was employed to thoroughly assess the clients and their outcomes, insure the integrity of the treatments provided, and reduce both the loss of participants and the impact of other sources of confound over the course of the three-year follow-up. Over its eight-year duration, the publicity surrounding Project MATCH fostered an almost unrealistic anticipation of groundbreaking findings. The data, when they were finally presented, were completely unexpected and intensely controversial. Rather than clarifying the role of treatment matching in outcome, Project MATCH is provoking a major re-evaluation of both the assumptions underlying effective treatment as well as research in clinical practice. This report briefly summarises the historical underpinnings of this landmark study, its unique methodological approach, its major findings and ensuing controversy. In addition, we present a discussion of new interpretations of the data emerging from the secondary analyses of Project MATCH data. Finally, we conclude with a consideration of the role of matching in contemporary substance abuse treatment and the new directions being explored in the aftermath of this landmark study.

1.1 THE MATCHING HYPOTHESIS

Researchers interested in alcohol abuse treatment have had endless difficulty in attempting to determine which treatments are the most effective. The Institute of Medicine (1990) argued that even though there have been over 600 alcohol outcome studies, no one treatment has been found to be uniformly effective. Certain treatment approaches have moderate empirical support, such as Motivational Enhancement Therapy, Cognitive Behavioural Therapy, and community reinforcement programs (Donovan, Kadden, DiClemente, Carroll, Longabaugh, Zweben, & Rychtarik, 1994); however, studies have not revealed which of these treatments are the most effective. In an effort to find the best alcohol treatment, researchers conducted studies that compared one treatment to another. The findings that emerged from these so-called “main effect” studies were disappointing: researchers found that inpatient programs are no more effective than outpatient programs, nor are longer term treatments more effective than briefer treatments. **What did result from these studies was a large body of literature showing that various social, behavioural, and pharmacological treatments are somewhat effective, but that no one treatment is more effective than another.**

This led researchers to the matching hypothesis, a consideration of other variables that could influence whether individuals would be more likely to succeed in one treatment over another. When researchers refer to matching, they are most commonly referring to interactions between the characteristics of the client and the role that these factors play in determining which treatments are most likely to result in positive outcomes. The severity of psychopathological symptoms, for example, has been shown to predict treatment outcomes. Pettinati, Meyers, Jenson, Kaplan, and Evans (1993) found that alcoholics with severe psychopathological symptoms were less likely to drop out early on during the treatment phase when treated at an inpatient facility as compared to an outpatient setting. Many such small-scale studies provide support for client-treatment matching and are considered in more detail in the following sections.

Although most matching studies concern client-treatment interactions, other types of matching may play an equally important role and thus warrant consideration. For example, clients' preference for treatment may influence whether a particular treatment is likely to result in positive outcomes (Mattson, 1994): one would expect that individuals who prefer working in groups would fare better in group-oriented treatments, such as Alcoholics Anonymous (AA), whereas other people who prefer working one on one would fare better in an cognitive behavioural therapy (CBT) or brief motivational enhancement therapy (MET) program. One study has shown exactly that. Participants who were randomised into an aftercare treatment that they preferred did better on several substance use outcomes at six months follow-up compared to those who were not (Brown, Seraganian, Tremblay & Annis, in press).

Another matching paradigm concerning psychotherapy involves how therapists' characteristics interact with clients' characteristics (Kelly, 1990; Beutler, 1981; Chartier, 1971; Razin, 1971). Certain therapist characteristics, such as genuineness, respect, as well as the ability to create an empathetic environment are believed to lead to positive treatment outcomes whereas others argue that a more confrontational approach results in positive outcomes (Mattson, 1994). In either case, whether the therapists' characteristics help or hinder the therapeutic process may be dependent on the clients' characteristics. For example, Miller, Benefield, and Tonigan (1993) found that people who viewed their alcohol problem as a bad habit were more likely to succeed when treated by empathetic therapists than with confrontational ones. In contrast, people who viewed their alcoholism as a disease did equally as well with either empathetic or confrontational therapists.

Matching, then, is a complex phenomenon that involves a seemingly endless array of possible interactions. To complicate matters, matching paradigms may also be dynamic in nature (Mattson, 1994). For instance, as a client's behaviour, attitudes, and life circumstances change, treatment strategies may have to evolve as well. Prochaska, DiClemente and Norcross (1992) posit that recovery from alcohol is a process involving five independent stages: precontemplation, contemplation, preparation, action, and maintenance. At each stage, different strategies may need to be employed. For example,

therapists dealing with people who are initially acknowledging that they have a problem with alcohol, but uncertain about what they are prepared to do about it (i.e., in the contemplation stage) may need to adopt strategies that speak directly to that stage of the process, such as exploring with the client the pros and cons for changing and the available treatment options. In contrast, therapists dealing with motivated individuals who have already begun to change their behaviour (i.e., in the action stage) may need to use more problem-solving types of strategies.

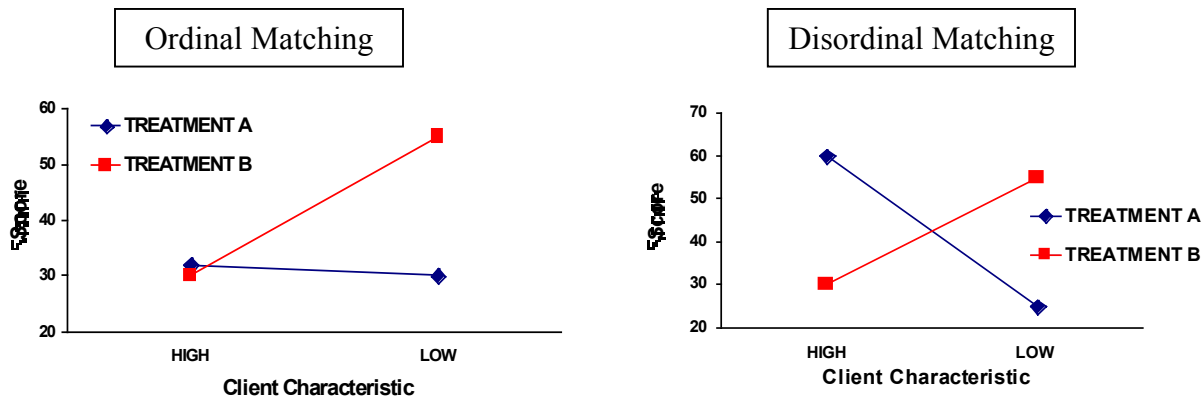
1.2 TYPES OF MATCHING

Not all client characteristics interact with treatment interventions. In fact, certain characteristics will have a positive impact on all treatment outcomes, regardless of the intervention employed. Those characteristics that affect all treatment outcomes equally are called outcome predictors. For example, people who are married, employed, intelligent, and have a higher socio-economic status are far more likely to succeed irrespective of the treatment they undergo compared to people who do not possess these particular demographics. As outcome predictors influence the extent to which a person is likely to succeed in any treatment, these factors are not considered to be matching variables.

In contrast, matching factors differentially affect outcomes, depending on the type of treatment employed. For example, the degree to which people possess certain characteristics can influence whether or not they are likely to respond to a particular treatment. There are two primary types of treatment matching: ordinal and disordinal (Mattson, 1994; Smith & Sechrest, 1991). Figure 1 depicts these two types of matching effects. Ordinal matching occurs when for example individuals low in a particular characteristic fare better in one type of treatment over another. In contrast, individuals who are high in a particular characteristic are likely to have equal success in treatment, regardless of the intervention employed. For example, the degree to which individuals experience depressive symptoms could predict whether they are equally as likely to

succeed in two different treatments or whether they are more likely to succeed in one treatment over another.

Figure 1 : Examples of ordinal and disordinal matching effects



Disordinal matching is when the effects of the intervention are reversed for different groups. For example, individuals who are high in a particular characteristic will fare better in a certain treatment, whereas individuals who are in low in the same characteristic do poorly. For example, there is evidence that individuals high on psychopathology tend to do better in treatments that focus on developing coping skills than in interactional therapy whereas the opposite pattern is seen in individuals low in psychopathology, that is, in that they fare better in interactional therapy than in coping skills treatments (Cooney, Kadden, Litt, & Getter, 1991; Kadden, Getter, Cooney, & Litt, 1989).

1.3 A BRIEF HISTORY OF THE CLIENT - TREATMENT MATCHING LITERATURE

The study of client-treatment matching in the alcoholism field is not a new area of empirical inquiry (Wallerstein, 1956, 1957; Bowman & Jellinek, 1941). In addition, client-treatment matching is not restricted to research in the area of alcohol treatment: researchers have also studied client-treatment interactions both in terms of psychotherapeutic interventions (Snow, 1991) and educational psychology (Cronbach, 1967, 1975; Cronbach & Snow, 1977).

Mattson et al. (1994), in a review of the research conducted on client-treatment matching in alcoholism, identified four broad categories of client characteristics into which the extent matching literature could be grouped: demographic factors, substance use-specific characteristics, intrapersonal characteristics, and interpersonal functioning. We use these categories to present a brief synopsis of the matching literature.

1.3.1 Demographics

Basic demographic characteristics, such as gender, marital status, and age are attractive for matching because they are easy to measure. Gender is the most frequently represented demographic variable in the literature. Scott and Anderson (1990) found that men who abuse alcohol were more likely to experience a reduction of drinking when they received a physician's advice than when they filled out a health survey whereas women were as equally likely to succeed in either condition. Another study by Cronkite & Moos (1984) found that men were more likely to succeed in a group treatment program whereas women were more likely to succeed in an educational treatment program that involved films and attended lectures. Women also have been found to have better posttreatment substance abuse outcomes when provided an AA-based aftercare compared to Relapse Prevention, while men showed the opposite effect (Brown, Seraganian, Tremblay & Annis, in press).

Age is another readily available criterion for matching. Studies investigating the impact of matching age to treatment modality have generally failed to uncover significant effects (e.g., Project MATCH, 1997; Brown et al., in press). However, the research has primarily focussed on how matching may improve outcomes for adult substance abusers. Though matching may also benefit adolescents who suffer from alcohol abuse, clinicians working with adolescents face additional challenges above and beyond those encountered in adult populations that further complicate matching efforts. For instance, substance abuse is highly prevalent in adolescents, but the early stages of substance abuse are often difficult to tease apart from the typical teenage experimentation with alcohol and drugs (Jacobs, Copperman, Joffe, Kulig, McDonald, Rogers, & Shah, 2000). Compared to typical adult treatment settings, abuse rather than dependence disorders is more prevalent in adolescent

treatment settings. Thus, differentiating occasional and experimental users from more severe users who are suffering emotional and physical consequences of their abuse is critical. Adolescent substance use is frequently only one facet of a more extensive clinical picture of disturbance. Substance use may be symptomatic rather than the cause of these difficulties. Additionally, adolescent substance abuse outcomes are exquisitely susceptible to factors outside of treatment. Such features as family environment and the involvement of parents, peers and teachers can be crucial in either facilitating or impeding intervention efforts (Jacobs et al., 2000).

Thus, it stands to reason that matching paradigms for adolescents would also differ from the paradigms proposed for an adult population. Curiously, the literature on adolescent matching has been relatively silent. Certain matching models have been proposed that underscore the differences between adult and adolescent substance abusers (Mee-Lee, 1995). One potentially interesting matching hypothesis is how the attitudes of the parental figures of adolescent abusers might interact with whether an adolescent is likely to succeed in one treatment over another. For the moment, this hypothesis has yet to be empirically evaluated.

Despite the convenience of using demographic characteristics as matching variables, it is important to note that these characteristics are particularly vulnerable to confounding. Demographic variables are highly correlated to other underlying cultural, social, and psychological factors. For instance, gender as a biological variable may be confounded with gender role identity that in turn is highly influenced by culture. Racial background may be confounded with socio-economic status. Thus, although there is some evidence of demographic-treatment interactions, the actual active matching mechanisms are often less clear.

1.3.2 Substance use patterns

The second category of characteristics concern drinking and drug use-related behaviours, such as the amount and duration of consumption, family history, and consequences of use.

These variables are intuitively appealing, as it seems reasonable that different variations of alcohol and drug use would require different types of treatments. Studies show that people who are heavily dependent on alcohol gain more from certain programs compared to those less severely dependent, which results in a disordinal matching effect (Litt, Babor, Delboca, Kadden, & Cooney, 1992; Miller et al., 1993). However, in other research, an ordinal matching effect emerges. For example, McLellan, Woody, Luborsky, O'Brien, and Druly (1983b) found that less severely dependent individuals gain more from certain programs, whereas severely dependent individuals do poorly in all treatments.

With respect to substance abuse patterns, Brown et al. (in press), found that individuals who abused multiple substances benefited more from an abstinence-based AA aftercare program, while those with a single drug complaint fared better in Relapse Prevention aftercare. Other authors (Maude-Griffin, Hohenstein, Humfleet, Reilly, Tusel & Hall, 1998) have found that a cognitive-behavioural approach to treatment was more effective than a 12-Step approach with cocaine addicts.

1.3.3 Intrapersonal Characteristics

Interactions between treatment type and a number of intrapersonal characteristics, such as personality, psychiatric distress and cognitive functioning, have been investigated. In an early matching study with alcohol and drug dependent adults (McLellan, Luborsky, Wood, O'Brien & Druley, 1983a), neither high nor low psychiatric severity as measured by the Addiction Severity Index was found to interact with four different therapy modalities. However, those individuals with moderate psychiatric severity did show differential treatment effects. People who are less socialised or tend toward sociopathy may fare better in treatments that focus on basic coping skills than in treatments that target interactional processes (Cooney, Kadden, & Litt, 1990). Moreover, disordinal matching effects were observed with psychological distress: individuals with higher and persistent psychological distress fare better in a more didactic AA-based aftercare program as compared to those with low distress who thrive in a more coping-based Relapse Prevention approach. A more recent study by McLellan and his colleagues (1997) found that treatment which

specifically targeted clients' psychiatric, family and employment problems resulted in better treatment retention and completion as well as 20-30% better outcomes compared to treatment that did not systematically adapt to clients' needs.

In a study of women substance abusers, personality-specific motives for substance abuse were identified that interacted with treatment to yield differential outcomes (Conrod, Stewart, Pihl, Coté, Fontaine & Dongier, 2000). Specifically, brief interventions were orchestrated to target the motivations for substance use in women who were classified as either anxiety sensitive, hopeless-introverted, sensation seeking and impulsive. The women who were not provided the intervention matched to their personality-specific motivation to use did more poorly than those women provided a personality-specific intervention.

Other studies have explored cognitive elements, such as locus of control (Hartman Krywonis, & Morrison, 1988), craving (Kadden, Litt, Cooney, & Busher, 1992), and autonomy (McKay, Longabaugh, Beattie, Maisto, & Noel, 1993). For example, one study investigated the use of pharmacotherapy with alcoholics (Jaffe, Rounseville, Chang, Schottenfeld, Meyer, O'Malley, 1996). Individuals with both higher level of craving and poorer cognitive functioning (i.e., non-verbal learning skills) had better outcomes when administered naltrexone along with psychotherapy compared to those who had lower intensity craving and better verbal learning skills.

1.3.4 Interpersonal Factors

The fourth category of variables concerns interpersonal factors, such as social stability and social support (Kissin, Platz, & Su, 1970; Welte, Hynes, Sokolow, & Lyons, 1981). Welte et al. (1981) found that more inpatient treatment (i.e., over 30 days) was associated with better outcome for people with low social stability. In contrast, extending inpatient care did not produce a more positive outcome for people with a higher degree of social stability. Pettinati et al. (1993) found that people with a low level of social support were less likely to drop out of inpatient programs compared to outpatient programs.

1.3.5 Treatment modality

From another perspective, matching can be formulated based primarily upon different treatment modalities. The most obvious treatment characteristics include therapeutic objectives (e.g., abstinence, reduced use or harm reduction) and inpatient versus outpatient treatment. Clinical guidelines typically advocate inpatient treatment for clients with low social support, greater dependence and concomitant medical and psychiatric problems. In fact a review of the empirical bases of these recommendations (Finney, Hahn & Moos, 1996) suggest that the literature is in fact less than clear about who benefits more from inpatient or outpatient care. What may be more important than the simple inpatient-outpatient distinction is what tends to happen in either setting. That is, treatment mediators, such as intensity of treatment, and moderators, such as social support for reduced use, may be confounded with treatment modality but in fact may be the actual determinants of outcome. Thus, sufficiently intense treatment that focuses on development of a social support network on a cheaper, less intrusive outpatient basis may yield the same benefits as more expensive and intrusive inpatient treatment. More research in this area is clearly warranted to discern the active elements of common treatment delivery modalities.

1.4 SUMMARY

The literature on matching has generally provided positive evidence for the potential of matching patient to treatment modality. Sociodemographic, psychological and substance abuse factors have been seen to interact with specific treatment modalities or delivery approaches to predict better outcomes. However, important methodological shortcomings in the early matching research undermined confidence in the soundness of the data. For example, the samples studied were often exclusively alcoholics while others targeting more naturalistic samples of multiple drug (e.g., alcohol and cocaine) addicts. The orchestration of treatment programs investigated was also variable from study to study, with little assurance of the quality of the experimental treatments or their equivalence between studies. Matching effects were often found in the course of studies that were actually designed to explore ‘main effects’, that is, studies that compare one treatment with another. Such ‘fishing expeditions’ tend to produce coincidental matching effects that have little

intuitive or theoretical bases. Finally, the majority of studies involved relatively small samples and inconsistent measures, often of unknown reliability. While statistics derived from such studies may detect powerful matching effects, they may not be sensitive enough to detect small to medium matching effects. By the early '90's what seemed needed was a definitive matching study that would 1) have the large sample, rigorous methodology and comprehensive assessment protocols necessary to detect even subtle matching effects, 2) provide experimental treatments of known quality, and 3) be designed to explore specific matching effects that seemed the most theoretically and practically promising based upon the extant matching literature.

CHAPTER 2 : PROJECT MATCH

2.1 THEORETICAL AND METHODOLOGICAL UNDERPINNINGS

A number of important methodological limitations had plagued the previous research on matching. One major objective of Project MATCH was to address these limitations by designing a large, tightly controlled, more conceptually focused study (Project MATCH, 1997a, 1997b, 1998a, 1998b). In actuality, the project did more than simply surpass, in quality, previous client-treatment studies. It stands as arguably the most impressive study of psychotherapeutic outcomes ever conducted in psychology. The project was, indeed, unparalleled, in terms of the budget allotted for its implementation (i.e., more than \$30 million US), the rigorous methodology and instrumentation, and the complex statistical analyses employed. The research team itself proudly proclaimed the study to be “the largest, statistically most powerful psychotherapy trial ever conducted” (Project MATCH, 1997a, p.25).

Project MATCH addressed procedural shortcomings that had traditionally compromised the internal and external validity of previous clinical trials. These included the lack of: 1) the clearly defined *a priori* hypotheses, 2) random assignment to experimental conditions, 3) standardised, manualized treatments, 4) supervision to ensure the quality of treatment

delivery, and 5) a comprehensive valid and reliable outcome assessment protocol (Project MATCH, 1997a).

The primary *a priori* hypotheses of Project MATCH were based on previous empirical findings. Ten primary client characteristics were selected for study. These included alcohol involvement (i.e., severity of alcohol problems), cognitive impairment, abstraction ability, gender, meaning seeking, (i.e., desire to find a greater purpose in life), motivational readiness to change, psychiatric severity, sociopathy, support for drinking and alcoholic subtype.

Three conceptually disparate treatments were selected. Although Alcoholics Anonymous (AA) is the predominant treatment approach in North America, previous matching studies had failed to include this intervention in their study protocols. The Twelve-Step Facilitation (TSF) was developed by Project MATCH to reflect an AA-inspired intervention. AA is grounded in the conception of alcoholism as a disease of the spirit, mind and body. Although all 12 steps are explored in TSF, emphasis is placed on steps one through three, namely, powerlessness over alcohol, belief in a higher power, and carrying out a moral inventory. Counselling sessions were structured following a similar format each week which included symptom review, discussion of AA involvement, the introduction and explication of the week's themes. Reading assignments from the AA literature complemented material discussed during weekly sessions.

Another treatment was Cognitive Behavioural Therapy (CBT). CBT involves: 1) the assessment of the environmental, interpersonal and emotional situations linked to increased risk of relapse and 2) increased self-efficacy through the utilisation of improved and more varied coping skills. The third intervention was Motivational Enhancement Therapy (MET), a brief intervention designed to increase motivation for and commitment to change. All three treatments were individually administered and delivered over a 12-week period: CBT and TSF both involved weekly treatment sessions, whereas MET consisted of four sessions, spread out over the 12-week period. The treatments were conducted in nine clinical settings from different regions in the United States. Outcome evaluations were

conducted at 3-month intervals during the first 15 months as well as an additional evaluation for outpatients only after 39 months posttreatment.

The project used a large sample that was intended to represent the population of alcohol abusers in the real world. The sample consisted of 1726 patients. Nine hundred and fifty two subjects were treated in an outpatient setting and 744 in an aftercare setting following inpatient or intensive day hospital treatment. Every effort was made to ensure that the two arms of the study were as similar as possible. After an initial assessment, participants who were deemed eligible to participate were administered an extensive battery of self-report questionnaires, which typically took about eight hours to complete over a three-day period. Highly trained therapists provided the structured treatments outlined in comprehensive manuals. All sessions were videotaped in order to assure consistency in treatment delivery and to provide a detailed evaluation of the treatment process. In order to enhance compliance to treatments, clients signed collateral contracts, were regularly called between sessions and sent reminder notes prior to all important study events.

Outcome evaluations were conducted at five points during the study: 3, 6, 9, 12, and 15 months. Additional data was collected for the outpatient group at 39 months. The completeness of the data was exemplary. For both arms (i.e., aftercare and outpatient treatment) of the study, 90% of the data was collected at each of the five follow-up evaluations. At the one-year follow-up, 93% of the living aftercare group and 92% of the living outpatient groups' data was collected. The high quality of care (i.e., supervised treatments with highly trained professionals, extensive assessments and frequent follow-ups) in addition to the selection of only those participants who were socially stable, may have contributed to the lack of attrition in the study, which in most studies is at about 20-40%. Extensive efforts were made to ensure the accuracy of the verbal report measures. Comprehensive test-retest reliability studies were conducted and revealed that the measures were reliable for interviewers paired both across and within sites. To corroborate self-reports both urine drug screens and collateral informants were used.

The ten *a priori* primary hypotheses are listed in Table 1. Interactions were predicted between ten client characteristics and the three treatments: CBT, TSF and MET. In addition, secondary hypotheses were predicted, but the investigators were less confident that these predictions would be supported. The analyses were based on the 3 to 15-month follow-ups. Overall, the culmination of treatment integrity, intake and posttreatment assessment procedures, reliability of measures, and completeness of data represent an astoundingly impressive research project.

Table 1 : Ten *a priori* hypotheses of Project MATCH. Hypotheses are based upon increasing values on continuous client characteristic variables.

Client Characteristic	Hypothesis
<u>Alcohol Use</u>	
Alcohol Severity	CBT better than TSF or MET
Support for Drinking	CBT or TSF better than MET
Typology	CBT or TSF better than MET for Type B MET better than CBT or TSF for Type A
<u>Demographics</u>	
Gender	CBT better for women TSF better for men
<u>Intrapersonal</u>	
Psychiatric Severity	CBT better than MET or TSF
Cognitive Impairment	TSF better than CBT CBT better than MET
Conceptual Level	MET better than TSF
Meaning Seeking	TSF better than CBT or MET
Motivation	CBT better than MET

2.2 MAJOR FINDINGS

Unexpectedly, only one of the ten primary matching hypotheses was partially supported at the 15-month follow-up in the outpatient group. It was expected that clients with high psychiatric severity (essentially more psychological symptoms) would fare better in CBT than in TSF. This did not occur, but outpatients low in psychiatric severity showed a greater number of abstinent days in the first year in the TSF group over the CBT group. For outpatients high in psychiatric severity, no significant differences emerged between the TSF and CBT conditions.

Aside from psychiatric severity, the most notable matching findings involved meaning seeking and motivation. In the aftercare group, clients who were high in meaning seeking (i.e., clients who, at intake, evidenced less purpose in life, but aspired to experience greater meaning) were moderately more responsive in the TSF group over the MET and CBT groups. It was predicted that the emphasis on spirituality in the TSF condition would be particularly appealing to clients who seek greater meaning in life. This interaction, however, did not emerge until the latter six months of the follow-up year. In terms of motivation, outpatient clients who were less motivated did better in the MET over the TSF and CBT groups. However, at the beginning of the posttreatment period, CBT appeared superior to MET and as time progressed, the two treatments reversed, which possibly indicates a delayed effect.

Two secondary hypotheses, one concerning anger and the other alcohol dependence were also supported at the one-year follow up. It was predicted that clients with a high level of anger would fare better in the MET program because this treatment involves a non-confrontational approach, thereby less likely to provoke anger and therefore more likely to result in positive outcomes. This hypothesis was supported: in the outpatient group, participants who evidenced more anger had better posttreatment outcomes in the MET group over the CBT group. In contrast, in the outpatient group, participants who evidenced less anger had worse outcomes in MET groups than in the TSF or CBT groups. In addition, clients in the aftercare group, who evidenced a higher severity of alcohol dependence, did

better in the TSF group, whereas clients who were less severely dependent did better in the CBT group.

The most remarkable finding was that the three different interventions yielded equivalent results despite their marked differences in conceptual underpinnings and intensity. What was particularly astounding was the finding that four MET sessions provided equivalent outcomes compared to both TSF and CBT, interventions that involved three times more sessions.

2.3 THE RESPONSE TO PROJECT MATCH

Project MATCH was an overwhelmingly complex study that generated extensive enthusiasm and expectations in the alcohol as well as other research communities. The project acquired considerable credibility because of both its scale and its rigorous methodology. The findings were expected to provide solid support for client-treatment matching in the treatment of alcoholism as well as clarification of optimal matching strategies that would improve the outlook for clients. When the data revealed only modest support for client-treatment interactions, both researchers and clinicians were flabbergasted! Did these findings mean that client-treatment matching was not a factor that warranted consideration in the treatment of alcohol abuse? In the time since the initial publication of the findings, considerable criticism has been targeted at the way in which the Project MATCH team designed their study. Researchers began to question whether the findings that emerged from Project MATCH were, in fact, as reliable as originally promised. Below we highlight some of the major criticisms aimed at Project MATCH and the ensuing controversies that continue to swirl within the substance abuse research community.

2.3.1 Criticisms and controversies

The focus of most of the criticism of Project MATCH pertains to its methodological perfectionism and lack of generalizability. Many have argued that the procedures, from

assessment to follow-up, were too rigorous and may have substantially influenced positive outcomes across study conditions. For instance, all participants were subject to an eight-hour pre-study assessment, far longer than assessments employed in the real world. The amount of time that certain participants spent being assessed, actually surpassed the amount of time they spent in actual treatment (i.e., participants in the MET condition spent only four hours in therapy!). These extensive assessments may have provided clients with a therapeutic effect large enough to mask any existing client-treatment interactions (Glaser, 1999).

The project was also criticised for how the treatments were delivered. It was argued that the therapists who administered the treatments were too good, in that they were highly trained and expert professionals and not representative of the typical clinicians who actually work with alcohol abusers in treatment settings. Additionally, the interventions were not deemed representative of the treatments that are used in the field (Glaser, 1999; Drummond, 1999). For example, therapists were trained to use manualized treatment programs created specifically for the study. Such highly structured interventions are not representative of the treatments typically provided to alcohol abusers. In addition, the formats of the interventions did not parallel the treatment formats used in the real world. For example, TSF is based on the 12-Steps of AA. Yet unlike traditional AA, TSF was provided as a one on one intervention. An additional criticism was that alcohol treatment programs often use a combination of different approaches while participants in Project MATCH were provided with only one 'pure' intervention (Drummond, 1999). The project also utilised a number of measures to increase participant retention in all treatment conditions, such as calling participants regularly, and sending them reminder notes. These contacts may have been therapeutically active components that made the treatments practically indistinguishable from each other (Project MATCH, 1997a).

Concerns were also raised about potential bias in the sample recruited. As in most randomised clinical trials, strict selection criteria for participation in the project resulted in a sample that was not representative of the typical population of alcoholics in the real world. For example, people who abused substances other than alcohol were excluded from

the study, yet research shows that the majority of alcoholics typically abuse other drugs as well (Brown, Seraganian, & Tremblay, 1993). In sum, Project MATCH utilised a select group of individuals, who arguably do not reflect the status of most alcoholics who seek treatment. As a result, the relevance of the findings to the real world of alcohol abuse treatment may be limited (San, 1999).

These criticisms raise the question: are the findings of Project MATCH reliable? A primary goal of Project MATCH was to address the limitations of previous research on client-treatment matching, such as small sample sizes and poor research designs, and in this objective it was successful. Ironically, the perfectionism of the study design may have compromised the very usefulness of the findings. In other words, the methodologies employed in Project MATCH that were intended to ensure the validity of the results may have prevented any actual client-treatment interactions from emerging and limited the pertinence of the interactions that did.

2.3.2 Secondary analyses and continuing study of outcomes

The secondary analyses of Project MATCH data have attempted to harvest more meaningful findings than the initial data analyses. This process has entailed two main strategies: 1) an investigation of the findings at the three-year follow-up to find out which matching findings were sustained, strengthened, or dissipated over the long-term (Project MATCH, 1998a); and 2) exploratory analyses to uncover other effects not originally hypothesised. Although the initial findings were generally considered to be a major disappointment, the three-year follow-up has revealed a number of robust effects in the outpatient group, one of which was not present in the one year follow-up. For example, it was predicted that clients with a social network that supported drinking would show worse outcomes with MET than with CBT or TSF. This prediction was based on the notion that CBT and TSF prepare clients for dealing with situations where they may be tempted to drink. It was supported only for TSF. The late emergence of this finding raises questions about whether this effect was in fact due to the treatment or some other posttreatment factor, such as ongoing AA involvement.

The matching effect for client anger is the most consistent interaction effect that Project MATCH confirmed: clients who evidenced more anger had greater improvement in the MET group than in the TSF or CBT groups at both one-year and three-year follow ups. One interpretation of this finding is that MET emphasises avoidance of telling clients what to do, both elements of CBT and TSF, which is likely to be counterproductive with angry clients. In contrast, it places the emphasis on the development of a firm therapeutic alliance. Unexpectedly, the matching effect involving psychiatric severity at the one-year follow up dissipated at three-year follow-up. Despite these emerging findings, overall, the support for matching at the three-year follow-up remains modest.

CHAPTER 3 : CONTRIBUTIONS OF PROJECT “MATCH”

3.1 MATCHING IS HERE TO STAY

Despite the controversy that continues to swirl around the ultimate contribution of Project MATCH to our understanding of substance abuse treatment, calling Project MATCH a failure may be exaggerated. If the findings of Project MATCH provide modest clarification about client - treatment matching, it is also unlikely that clinicians will abandon anytime soon their inclination to nuance treatment to better meet the needs of their clients. Moreover, well-designed smaller scale studies continue to reveal propitious matching paradigms (e.g., Brown et al., 2001). In this context it seems appropriate to soberly reconsider the contributions of Project MATCH to our understanding of effective substance abuse treatment.

3.1.1 Treatment Quality

A somewhat inadvertent result of Project MATCH was the finding that all of the treatments provided exceptionally good results. The lack of a no-treatment control in Project MATCH prevents us from unequivocally appraising the success of any of the treatments compared to no treatment. Nevertheless, what information we do have about

treatment outcome suggests that participation in any of the interventions provided within Project MATCH yielded benefits that are in the excellent range. Other possible non-therapy factors may have contributed to this outcome, including the recruitment of socially stable, good-prognosis alcoholics and frequent exposure to an expert and enthusiastic research team. At the same, it is unlikely that these methodological features alone explain the results. What went into the orchestration of Project MATCH's interventions is unquestionably significant as well: very good therapists who followed a very good treatment manual and who were well supervised by very good supervisors. **Far from suggesting that anything works equally well, this finding underscores the potential benefits of well-trained and supervised counsellors providing structured quality-assured interventions.**

3.1.2 Treatment intensity and duration

One of the more surprising and intriguing findings of Project MATCH was that the four-session MET resulted in outcomes comparable to 12-session CBT and TSF. Again, it is necessary to nuance this finding in light of the criticisms levelled at Project MATCH. Treatment effects may have occurred that had little to do with the actual interventions provided. However, these effects were equivalent across all treatments and so do not negate the absence of between group differences in outcome. Moreover, given the size of the sample recruited for this study, the sensitivity of the statistical tests to detect differences in outcome between interventions was very high. Thus, it is unlikely that even modest differences in outcome would have escaped detection. Finally, this result was uncovered in a fairly restricted sample of primary alcoholics with high social stability.

In spite of these caveats, this finding is meaningful for two reasons. First, it supports the notion that shorter, less intense treatments can under certain circumstances result in outcomes comparable to the more intensive and longer treatments traditionally provided for substance abuse disorders. Second, cost effective analyses confirmed that MET, like other brief interventions, is less costly to deliver in non-research, public addiction treatment settings (Cisler, Holder, Longabaugh, Stout, & Zweben, 1998).

Brief intervention for substance abuse has a long and established place in the treatment outcome literature, especially in Europe. In part, the support for brief intervention comes from observations of the 'natural recovery' phenomenon. The majority of individuals who successfully resolve their difficulties with problematic substance use (e.g., nicotine, alcohol, drugs) may do so with little or no formal treatment (Sobell, Cunningham & Sobell, 1996). Accordingly, it is argued that many clients with substance abuse problems do not require protracted and expensive treatments in order to benefit (Annis, 1985), especially when there are few symptoms of physical dependence (e.g., in the case of heroin addiction, generally more treatment is found to be associated with better outcomes). The viability of brief approaches to treatment has been investigated for over two decades (e.g., Orford & Edwards, 1977). 'Brief' interventions, rather than indicating one specific type of treatment, encompass a broad array of interventions that share one coherent characteristic: they involve significantly less specialist time than would normally be provided in intensive treatment; that is, from one or two sessions to no more than four (Heather, 1996). Additionally, they often involve such therapeutic elements as advice, evaluation and feedback, self-help manuals and information booklets.

The findings emerging from research into the effectiveness of brief approaches to alcohol treatment are promising. Brief intervention has been shown to be more effective than no treatment (Holder, Longabough, Miller, & Rubonis, 1991). A review by Miller and his colleagues (1995) indicated that similar effects on post-treatment abstinence rates were achieved when a variety of brief intervention approaches is compared to more intense, longer-term treatments. From a clinical standpoint, a brief approach to substance abuse treatment may provide additional benefits. Those who do not suffer from severe physical dependence are often unwilling to attend intensive treatment. Additionally, logistic obstacles, for example single parenthood, may dissuade a prospective client from participating in intensive treatment regimes (Miller & Rollnick, 1991). In contrast, such individuals may be more amenable to briefer, less obtrusive intervention strategies. Overall, from both research and clinical perspectives, the attachment to intense treatment approaches for all clients, based a) upon the assumption that more treatment is better, or b)

a treatment centre's commitment to an intensive treatment ideology for all clients, is simply not justified (Heather, 1989).

It is interesting that despite the support for brief intervention, implementation of brief treatment approaches to substance abuse treatment has lagged in Quebec as it has in North America generally. A recent informal survey of the content of several treatment centres around Quebec conducted by the CQRS-funded team Équipe de recherche sur la prévention et le traitement des toxicomanies (ERPTT) indicates that intensive approaches to treatment still predominate (Dongier & Bruce, 1997). When the modality of treatments offered was considered, only two centres in eleven were found to offer a relatively brief ambulatory treatment. This ongoing study reveals that in a sample of 275 individuals who have received treatment in these centres, less than 5% have been exposed to what might be considered brief intervention. Our research group is in the final phases of a CQRS-funded study that evaluates the impact and cost implications of brief interventions implemented in both clinical and laboratory contexts with a naturalistic sample of substance abusers. In this study, we have attempted to address some of the criticisms levelled at Project MATCH by recruiting a more naturalistic clinical sample, providing treatments in a group format, and limiting therapeutic contact to more normal levels. At the same time we attempt to respect the contingencies of methodological rigour by the use of manualized treatments, random selection into groups, and the inclusion of a minimal treatment control group. Although the outcome results are still being collected, we note that the level of satisfaction with brief interventions (i.e., 2-4 sessions) is high. Overall, Project MATCH has heightened interest in brief intervention strategies that challenge many of the traditional assumptions about the optimal duration and intensity of treatment. **While definitive replication of the findings of Project MATCH are expected in the near future, it seems safe to say that in many substance abuse treatment situations, more is not always better.**

3.2 EMERGING RESEARCH STRATEGIES

3.2.1 Treatment efficacy versus treatment effectiveness

Many of the methodological criticisms of Project MATCH reflect the discrepancy between the concerns of experimental methodologists (i.e., treatment efficacy) versus the real *world* of treatment (treatment effectiveness). For many research methodologists, the high internal validity targeted by treatment efficacy studies is a particular preoccupation. Even when conducting field trials, as Project MATCH aptly demonstrates, methodologies that reduce threats to internal validity are considered the ‘holy grail’ of treatment evaluation (e.g., Del Boca & Mattson, 1994). However, the investigation of ‘research therapies’ in randomised clinical trials (RCT), involving experimenter-controlled treatments, highly selected samples, and randomisation to treatments has been challenged (Woody, McLellan, Alterman, & O’Brien, 1991; Heather, 1996b). For example, some investigators (Weisz, Weiss, & Donenberg., 1992) have argued that the common use of manualized treatments such as those employed in Project MATCH tend to artificially strengthen effect sizes as compared to more clinically-based research that evaluates less structured but more realistic forms of intervention. Others have reasoned that since patterns of substance abuse in the community are in constant evolution, greater flexibility in the selection of participants in treatment outcome research is needed if the findings are to be generalizable to clinical populations (Stanton & Shadish, 1997). Overall, while the exercise of laboratory-type control may contribute to internal validity, it is clear that important real world system and intervention delivery attributes may be neglected.

The discrepancies between the demands of research methodology and the contingencies of the real world, and consequently, the potentially limited pertinence of empirical findings for administrators, clinicians, and clients in treatment milieus, is an issue that is now evoking the interest of applied researchers and administrators. The failure of Project MATCH, and the rigorous RCT strategy it represented, has provided a certain vindication to those who have challenged the traditional academic approach to treatment evaluation. What is now being called for is more study of the effectiveness of treatments when

delivered both in the context of controlled clinical trials as well as *in real-world clinical treatment settings* (i.e., treatment effectiveness) (Bickman, 1996). Treatment effectiveness studies may sacrifice some degree of experimental control over potentially confounding variables such as sample heterogeneity and counsellor-orchestrated interventions. On the other hand, they may better clarify the degree to which experimental therapies hold up in real-life clinical settings and, consequently, the implications such therapies may have for the health delivery system (Stanton & Shadish, 1997). Overall, while these issues do not necessarily invalidate the findings emerging from studies like Project MATCH, they underscore the need to continue the investigation of client - treatment matching under both stringent laboratory-like conditions as well as in clinical contexts that reflect the real-world of treatment.

The methodological controversy fuelled by Project MATCH is influencing the design of current large-scale treatment evaluation studies. For example, the United Kingdom Alcohol Treatment Trial (UKATT) project in England represents the next generation of treatment matching research (The UKATT Research Team, 2001). In this multisite study, MET is compared with Social Behaviour Network Therapy (SBNT). SBNT is an intervention that was specially contrived for this large-scale study. It is based upon the treatment effectiveness literature that has consistently shown good results with treatments that focus on building positive social support for a change in drinking. It represents to the United Kingdom what Project MATCH represented to the United States, namely the largest, most methodologically ambitious study of psychosocial addiction treatment ever undertaken in that country.

In many respects, this study is both a continuation and response to Project MATCH as much as an attempt to generate new knowledge in the area of treatment effectiveness. It follows up on the promising findings concerning brief interventions by comparing outcomes from a three-session MET and an eight-session SBNT. The potential benefits of a medium intensity empirically based treatment is compared to those of MET, in terms of both drinking outcomes as well as in cost effectiveness. Several matching hypotheses are also explored that are inspired by the positive though modest client - treatment interactions

seen in Project MATCH. Many of the instruments selected were used in Project MATCH. However, the UKATT team makes a major methodological leap; namely, the UKATT initiative shifts the emphasis on internal validity and explanatory mechanisms favoured in Project MATCH to stress pragmatic considerations (e.g., clinical decision-making and resource allocation) and treatment effectiveness. Accordingly, treatments are compared in conditions similar to those encountered in practice. Counsellors will be recruited from among the participating clinical sites and randomised to receive training in either MET or SBNT. Exclusion criteria are relaxed to include participants who are more representative of clients seen in treatment, including alcoholics who also have drug problems, low social stability, who may have severe but sufficiently remitted (i.e., for treatment) mental disorders. Despite the focus on external validity, a variety of measures to optimise internal validity will nevertheless be employed, including randomisation of participants, manualized treatments and on-going supervision of interventions, and biological corroboration of self-reported substance use.

3.2.2 Towards ecologically valid research paradigms

The design of this major study represents a major shift from reliance on the rigorous, internally valid RCT as the Holy Grail of treatment outcome studies. It is interesting to note that when our laboratory conducted a major NHRDP multi-site study of treatment matching in 1994-98 (Brown, Seraganian, Tremblay & Annis, in press; Brown, Seraganian, Tremblay & Annis, under review) that emphasised treatment effectiveness and generalizability, this kind of research was generally considered as methodologically weaker than the RCT. Ironically, the hubris and unfulfilled promise of Project MATCH may have had a positive effect: namely, the validation of methodologically ‘flawed’, but more ecologically valid studies of treatment performance. Moreover, the UKATT project suggests that the needs of the ultimate consumers of treatment outcome studies, namely the clients and clinicians, are finally gaining influence in the design of contemporary substance abuse research. By acknowledging the practical link between the health care researcher and consumer, the traditional gap between research and clinical work may be narrowing.

3.3 METHODOLOGICAL INNOVATIONS DEVELOPED FOR PROJECT MATCH

The expert and monetary resources funnelled into Project MATCH were unprecedented, and resulted in a rich technological inheritance for both the research and clinical communities. For example, in excess of 40,000 requests for the TSF, MET and CBT intervention manuals have been filled by the US government information dissemination agency (SAMHSA). The specially developed urn-randomisation software that promotes equivalence in group composition in the randomisation process is a sophisticated biostatistical innovation that is now available to other researchers in the field. The follow-up strategies that resulted in an extraordinarily small attrition rate have been documented and are distributed in a manual published by the NIAAA. All of the instruments used in Project MATCH, some specially designed and validated for the study, are also available free of charge to all researchers who want to utilise them in their own studies. Though not an exhaustive description of all of the technological offshoots of Project MATCH, it is clear that the legacy of Project MATCH will have significant clinical and methodological implications for years to come.

CHAPTER 4 : THE CHALLENGE OF MATCHING IN CLINICAL PRACTICE

Although belief in the benefits of adapting treatment to meet the special needs of clients is now almost universal, in clinical settings systematic client – treatment matching is a difficult prospect. The following chapter summarises some of the major stumbling blocks and challenges that must be met for beneficial matching to take place.

4.1 PATIENT SELF-SELECTION

Patients select the treatments they are exposed to all the time. They may choose a certain treatment option over another (if choice is available) or they may reject a treatment by discharging themselves prematurely from an unsatisfactory treatment. Nevertheless, client

preference for treatment is neglected in the conduct of randomised clinical trials, where experimenters select the treatments their participants are exposed to (Öjehagen & Berglund, 1992; DeLeon, 1998). Yet it stands to reason that a client's preference for treatment may interact with the type of treatment they actually receive to influence outcome. Our recent matching study (Brown et al., in press) provides evidence for this effect. We described the different experimental aftercare conditions to participants, and then we randomised them into one or the other program. We then asked participants whether the experimental aftercare program into which they had been randomised was coherent with their personal preference. We found that if participants were randomised into the program they preferred, posttreatment outcomes were better than if they found themselves in the non-preferred program. Thus, client preference may be a reasonable basis for matching client to treatment if some treatment options are readily available to the client. However, client preference may not necessarily agree with other possible matching strategies or clinical judgement. Given the potential importance of client preference in treatment outcome, adherence and satisfaction, personal preference should be viewed as an essential element in treatment planning.

4.2 FEASIBILITY

It is common that therapists respond to some degree to the specific needs or requests of their clients. There is little evidence of the impact of such minor matching attempts to overall outcome. The evidence for matching comes from research into systematic attempts to match discernible treatment type and/or modality to identifiable client characteristics. This distinction is important because major client - treatment matches that are found to be beneficial can then be readily applied in others settings. However, this assumes that there is flexibility in the treatment systems in place to serve clients seeking treatment.

The potential within the public health care service sector to provide distinct and conceptually 'pure' treatments matched to client characteristics is confronted by many practical roadblocks. The reticence of many professionals working in health care services to sacrifice their clinical autonomy in order to adopt a structured, conceptually unfamiliar

approach to their interventions is well known (Glaser, 1994). In addition, the views held by both the public and professionals concerning the aetiology, course and treatment of substance use problems remain heavily influenced by moral and empirically unsupported treatment ideologies. Such pervasive and entrenched values may be difficult to overcome when attempting to introduce a clinical strategy that overtly runs contrary to these beliefs (Kavanaugh, 1995). In some circles, institutional resistance to change may also block any efforts to alter the clinical status quo (Backer, 1995). Hierarchical power struggles between administration and staff or union and administration may also severely limit the flexibility of clinical programming. Finally, limited expertise and financial resources may simply not allow the provision of several truly distinct, high quality, alternate treatment modalities in one setting.

At present matching may be most viable by adapting treatment within a given setting. The treatment planning in most treatment settings presents opportunities for informed matching. These include decisions concerning in-patient versus outpatient treatment, the appropriateness of detoxification and other ancillary services (e.g., comorbidity treatment if available and motivational enhancement) prior to induction to formal treatment, AA and total abstinence approaches versus more psychosocially-oriented and harm reduction approaches, minimal versus intensive long-term treatment as well as the provision of specific treatment components to best meet the needs of the individual. Most of these issues have been empirically investigated. Unfortunately, the findings concerning even the most basic clinical matching decisions such as in-versus outpatient treatment remain somewhat equivocal (Finney, Hahn & Moss, 1996). Nevertheless, knowledge of the most recent matching literature can inform discussions between the client and therapist about the available treatments options, and those options that are most likely to provide good outcomes.

CHAPTER 5 : EMERGING RESEARCH AND TREATMENT DIRECTIONS IN THE 'POST MATCH ERA

5.1 FROM SIMPLE TO COMPLEX INTERACTIONS

Project MATCH represents a turning point in our understanding of matching client to treatment, both conceptually and methodologically. Successful matching will likely involve more complex, higher order interactions than Project MATCH attempted to address. For example, recent re-analyses of our data suggest that alcoholic females may benefit more from Relapse Prevention aftercare compared to drug dependent females who fare better in an AA type aftercare program (Tremblay, Brown, Seraganian & Annis, 2001). Such three-way interactions (i.e., gender by substance abuse profile by treatment) hint at the potential conceptual sophistication necessary to better understand matching. At the same time, the degree of complexity in matching that can be feasibly implemented in the clinical milieu remains to be established. In addition, the evolving status of most clients undergoing treatment and the organisational elements at play in all treatment settings further complicate matching attempts. It now seems clear that the 'medical' approach to treatment adopted by Project MATCH, involving application of a refined psychosocial treatment under precise conditions, is an unrealistic oversimplification of how addiction treatments work.

5.2 BROADENING THE BASE OF MATCHING RESEARCH

Matching research has been for the most part limited to psychosocial treatments and characteristics. However, the compelling evidence for biological and genetic vulnerability to addiction and the contribution of neuroscience to our understanding of mechanisms that underlie the reinforcement of alcohol and drug abuse cannot be neglected (see 9th Special Report to the US Congress on Alcohol and Health, USDHHS, 1997 for an overview). Further clinical evidence of the importance of these factors comes from observations that the best outcomes are predicted with a

combination of biological (e.g., naltrexone, acamposate) and psychosocial interventions compared to unitary approaches. Thus, treatment outcomes may be further improved if biologically and clinically meaningful subtypes of substance abusers can be identified and matched to true biopsychosocial treatments.

5.3 FROM CONTENT TO PROCESS

The clinical application matching is fraught with many contradictions. It assumes that not all interventions are equivalent in their potential benefit to clients. However, most treatment programs and therapists have a multitheoretical and multimodal perspective with respect to the nature of interventions provided to clients. The research relies on structured manuals of theoretically pure treatments, yet therapists do not feel comfortable with structured treatments or even treatment guidelines. Empirically based matching prescriptions may compete (usually unsuccessfully) with anecdotal clinical experience and judgement.

These inconsistencies are universal in the delivery of psychotherapeutics. Beutler (2000) has presented a thoughtful discussion about how to reconcile these issues. He notes that while research has failed to convincingly demonstrate the superiority of one treatment over another, **the most consistent predictor of outcome has been the quality of the therapeutic relationship between therapist and the client.** Thus, **what may be of more practical importance to successful outcome is not necessarily what specific treatment is provided, but rather who provides and the manner in which it is delivered.** Accordingly, it may be more important to tailor the treatment specifically to enhance the therapeutic relationship than to be consistent with a theoretical model of psychopathology.

The role of the therapeutic alliance to substance abuse treatment outcome has been empirically explored. For example, Gertsey and his colleagues (1989) examined the quality of the therapeutic alliance between therapists and clients with a diagnosis of antisocial personality disorder. They found that these individuals were able to form

positive relationships with their therapists and that scores on the Helping Alliance Questionnaire (Luborsky, 1984) were correlated to improvements from psychotherapy. Thus, even in this ‘therapy-resistant’ population, the quality of the therapeutic relationship can contribute to better results. It is also noteworthy that MET places heavy emphasis on techniques thought to optimise and maintain the therapeutic alliance despite client resistance, missed sessions and other common threats to the client-therapist relationship. Its comparability in effectiveness compared to more intensive treatments provides indirect support for the importance of this focus to treatment.

Judicious client-therapist matching may contribute to the quality of the therapeutic relationship as well as to treatment retention and engagement. In a review of literature, Beutler (2000) has described a number of promising avenues of future research. These include client-therapist similarity on various aspects of background, demographics and cognitive conceptual level, and the willingness and capacity of the client to accept the therapist’s value system. Moreover, given the eclectic nature of most therapy programs, what may be more important than matching to therapy content is matching to the counsellor’s therapeutic style. For example, secondary analyses of Project MATCH seems to support the contention that clients who tend to resist external control (i.e., high anger and hostility) may do better with a therapist who has a non-directive or paradoxical therapeutic style such as MET. Overall, matching may exert a beneficial impact indirectly by improving common non-specific mechanisms, such as the quality of the therapeutic alliance that may underlie all effective therapeutic experiences. Future research will hopefully clarify: 1) the common mechanisms of successful therapeutic experiences, and 2) the matching client – therapist algorithms that optimise these mechanisms.

CHAPTER 6 : SUMMARY

Attempting to match treatment to client needs is a ubiquitous objective in the modern treatment of addictive disorders. Project MATCH was the largest, most comprehensive psychotherapy clinical trial ever conducted. Its purpose was to test clinically and empirically derived matching hypotheses using the most advanced and rigorous methodologies available. Despite the professional hubris surrounding the study and the staggering resources that were invested in its realisation, Project MATCH fell short of its explicit objectives. Despite its unfulfilled promise, this landmark study has provoked a major reconsideration of the significant elements of effective treatment, the research methodologies employed to clarify psychotherapeutic effects, and the future of clinical research in the area. Moreover, it has left a legacy of clinical and research innovations which continue to enrich the delivery and investigation of effective treatment. In sum, Project MATCH may represent the defining moment that propelled substance abuse treatment into the 21st century.

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