Familial Factors that Influence the Effectiveness of Multisystemic Treatment (MST) with Serious Youth Offenders in New Zealand

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Abbreviations

ADHD	Attention Deficient Hyperactivity Disorder
A-L	Adolescence Limited
BPT	Behavioural Parent Training
CD	Conduct Disorder
CRESA	Centre for Research on Evaluation and Social Assessment
CYFS	Child Youth and Family Services
CYPF	Child, Young Person and Family
DOC	Department of Corrections
FFT	Functional Family Therapy
FGC	Family Group Conference
FRC	Family Relationship Characteristics
IT	Individual Therapy
L.C.P	Life Course Persistent
MDFT	Multidimensional Family Therapy
MST	Multisystemic Therapy
MST NZ	Multisystemic Therapy New Zealand
ODD	Oppositional Defiant Disorder
OYS	Oregon Youth Study
PBT	Parent Behaviour Training
PMT	Parent Management Training
PSI	Parental Supervision Index
PST	Parent Skills Training
RYO	Reducing Youth Offending
RYOP	Reducing Youth Offending Programme
TAM	Therapist Adherence Measure
TAU	Treatment As Usual
TBRS	Therapist Behaviour Rating Scale
SAM	Supervisor Adherence Measure
SLT	Social Learning Theory
US	Usual Services
WAI-S	Working Alliance Inventory – Short Form
YDC	Youth Drug Court
YBS	Youth Behaviour Scale
YJ/YJS	Youth Justice/Youth Justice System
YOS	Youth Offending Strategy
YRS	Youth Risk Screen

Familial Factors that Influence the Effectiveness of Multisystemic Treatment (MST) with Serious Youth Offenders in New Zealand

Abstract

Families (N=139) participating in the Reducing Youth Offending Programmes (RYOP) in Auckland and Christchurch, New Zealand completed questionnaires exploring a range of family factors that influence youth offending behaviour. The aim of this research was two fold; firstly to investigate the Therapist Adherence Measures (TAM) and assess whether the same six subscales, which have been found in previous research, were also obtained in the New Zealand data, and whether TAM results predicted recidivism. The second goal was to investigate if other measures of family functioning (FRC and YBS) and therapist alliance (WAI-S) could provide additional information to the TAM with regards to recidivism.

Results indicate that the RYOP TAM's produced different subscale results to the six subscales in earlier MST studies and as such a three-factor subscale model was proposed. The other measures (FRC, YBS and WAI-S) investigated added little information beyond the TAM concerning recidivism.

1.0 Introduction

1.0.1 General Overview

Youth offending is a reality that no amount of research can change, however research into the aetiology and pathways of delinquency are able to provide information concerning when interventions should be delivered and who would benefit most. Gottfredson and Hirschi (1990) proposed a General Theory of Crime to explain the development and course of offending behaviour, while Moffitt (1993) proposed a Developmental Taxonomy to differentiate between Life Course Persistent and Adolescent Limited Offenders. Patterson and colleagues (1989) suggest that it is the Coercive Interaction Patterns within families that lead to youth offending.

Evidence suggests that family characteristics are important factors in the aetiology of youth offending (Matherne & Thomas, 2001). The literature implies that four main environmental systems around youth contribute to and influence offending behaviour: Family, peer, school and community environments (McLaren, 2000).

Treatment fidelity is a major component of every therapy and is a comprehensive model that comprises three interlocking aspects of therapy implementation: adherence, competence and differentiation (Dane & Schneider, 1998). Interventions that address severe antisocial behaviour in youth offenders have previously had little success (Church, 2004, McLaren, 2000, Kazdin & Mazurick, 1994, Prinz & Miller, 1994). Multisystemic Therapy specifically focuses on monitoring therapist adherence; this is done so through the use of a questionnaire, completed by families participating in treatment, the Therapist Adherence Measure (TAM – Appendix One).

Multisystemic Therapy is a realistic and goal-oriented treatment approach that focuses on the issues in a youth's ecology that contribute to and/or maintain his/her antisocial behaviour. The ultimate goal of MST is to empower the youth's primary caregivers with the skills and resources needed to independently address the difficulties that arise in raising teenagers with behavioural problems. Multisystemic Treatment New Zealand (MSTNZ) was founded in 2001 in conjunction with Richmond Fellowship (NZ) in response to an identified need to develop clinically effective and cost-efficient treatments for youth at risk for antisocial behaviour.

Efforts within New Zealand to decrease youth offending have resulted in researchers assessing the underlying factors or correlates that may lead to offending (McLaren, 2000, Singh & White, 2000). Research within New Zealand has focused on identifying programmes that result in effective and positive outcomes for youth and their families (Maxwell & Morris, 1999).

Maxwell and Morris (1999) reported specific correlates related to New Zealand youth offenders. They cited early life experiences, such as poor parental care as a child, parental criminality, family poverty and lack of parental supervision as predictive of later offending. Lacking cultural pride and a positive cultural identity are specific risk factors found to be associated with New Zealand Maori

offenders (Maxwell and Morris 1999). Identifying treatment programmes that produce effective and sustainable behavioural changes for youth offenders is the priority for many researchers.

Nature and Scope of the Investigation

The primary goal of the proposed research is to identify whether the New Zealand Reducing Youth Offending (RYO) TAM data had similar factor outcomes to those found in earlier randomised control studies (Huey, Henggeler, Brondino & Pickrel, 2000; Henggeler, Melton, Brondino, Scherer & Hanley, 1997). In addition, we were interested in whether the TAM was able to predict recidivism in a New Zealand youth offending population. The necessity of collecting TAMs is based on research demonstrating that adherence monitoring enhances programme efforts to achieve positive outcomes for referred families and youth. The developers of MST originally identified six sub-factors in the TAM that were believed to relate to adherence to the Multisystemic Treatment (MST) model as outlined by nine principles (Appendix Two). The 26-item TAM questionnaire was designed by the developers (Henggeler & Borduin, 1992 cited in Huey et. al., 2000) of MST to assess the treatment principles and access family and therapist behaviours specific to the practise of MST (Appendix One). Caregivers rate the extent to which certain events occur in treatment sessions with response options ranging from 1 (not at all) to 5 (Very much).

Factor analysis were computed on the 26 items to produce the six sub-factors which include, Therapist Adherence to the MST treatment model, Non-productive sessions, Therapist-Family problem solving effort, Therapist attempts to change interactions within the family, Lack of direction and finally Family-Therapist consensus. It is thought that the Adherence, Non-productive sessions and Therapist attempts to change interactions sub-factors were those most strongly predictive of long-term outcomes.

A secondary aim was to investigate additional measures Youth Behaviour Scale (YBS), Working Alliance Inventory-Short Form (WAI-S) and the Family Relationship Characteristics (FRC) to see if they contributed to the TAM data to provide further information about recidivism in the RYOP population.

1.1   Offending/Delinquent Behaviour in Youth

1.1.0   Definition of Offending/Delinquent Behaviour

Antisocial behaviour has been defined as behaviours that result in societal laws being broken and is disruptive and harmful (or potentially so) to a group or society (Reber, 1995).   Juvenile delinquency has been further defined as antisocial and offending behaviour by young people, which include status offences- violations of laws exclusively governing juvenile behaviour (Martin, 2005) such as alcohol consumption, truancy and engaging in sexual behaviour. These behaviours can lead to more serious forms of offending, especially if they occur at an early age.

Many young people exhibit delinquent behaviour to some degree, in certain situations, which can be exacerbated if they display antisocial behaviour. Research indicates that antisocial behaviours are manifest in 4-15% of young people (Curtis, Ronan, Heliblum, Reid & Harris, 2002), these behaviours include Conduct Disorder (CD), Oppositional Deviant Disorder (ODD).

When considering delinquency and how it relates to antisocial behaviour, age of criminal responsibility should always be considered. Under New Zealand law a child is defined as being up to 13 years old, while a young person is defined as 14 – 17 years of age. In New Zealand no person under the age of 10 can be prosecuted for any criminal offence (Beecroft, 2003). There is strong evidence that early onset of antisocial behaviour is related to an increase in the frequency of later offending. Research has found that one of the biggest predictors of future offending is previous offending.

Figure One

CAUSAL MODEL OF ANTISOCIAL BEHAVIOUR

CONDENSED LONGITUDINAL MODEL

Low monitoring

Low affection

High conflict

Low school involvement

Poor academic performance
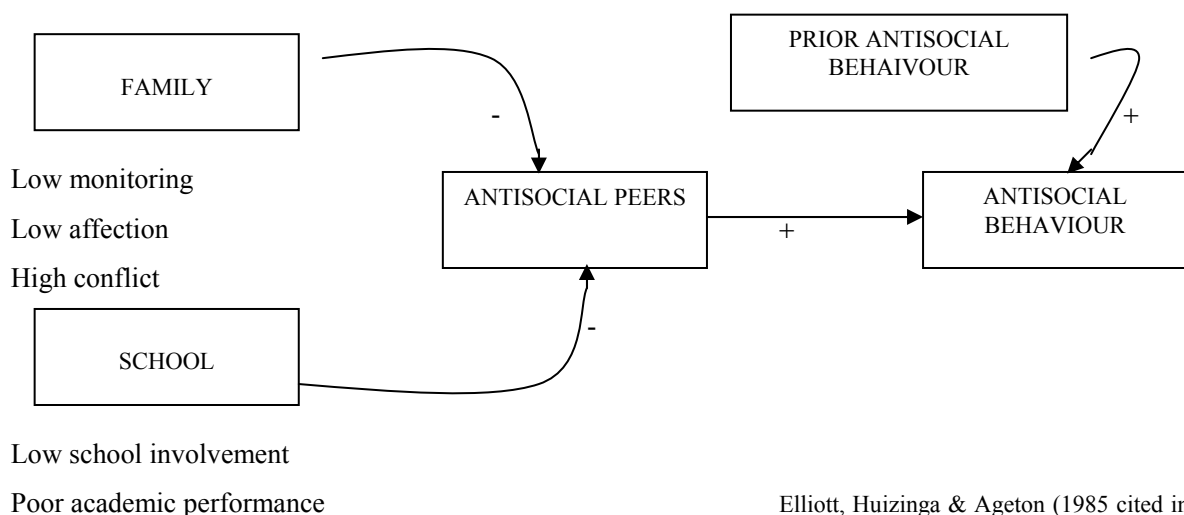
Elliott, Huizinga & Ageton (1985 cited in Poulin et al., 1999)

Figure One highlights that if youth have a family environment that is low in monitoring and affection and high in conflict then they are likely to want to 'get away' from that environment. The same thing goes for the school, if there is no positive home school communication and the youth is finding

schoolwork particularly demanding then this too is an environment they may wish to escape. As a result they may spend time with antisocial peers, which increases the risk of offending behaviour.

Research has reliably found that a small subgroup (approx. 5%) of offenders account for a majority of all offences committed in a given cohort (50-60%) (Henry, Caspi, Moffit & Silva, 1996). This subgroup usually displays antisocial behaviour from an early age, and engages in high rates of criminal behaviour and employing aggressive tactics (Elliott, Huizinga & Morse, 1986). Moffit (1993) would describe this subgroup as Life Course Persistent offenders. The other 95% of offenders belong to a group whose offending behaviour develops later, and is typically less severe and frequent in nature (Elliott, Huizinga & Morse, 1986). The majority of research conducted on delinquents has focused on male youth offenders, as they pose a higher risk for seriousness, frequency, and duration of offending.

Developmental theories propose that children who develop into chronic violent offenders are characterised by some feature that constantly brings them into conflict with their environment at an early age. Most theories agree that children at highest risk for later serious offending exhibit antisocial behaviour at an early age (Krohn, Thornberry, Riveria & Le Blanc, 2001; Fergusson, Horwood & Nagin, 2000; Moffitt, 1993; Gottfredson & Hirschi, 1990; Patterson, DeBaryshe & Ramsey, 1989): Irrespective of how delinquents are classified, studies have consistently highlighted the significance of age of onset at predicting the persistence of offending (Moffit, 1993; Krohn, et al., 2001).

Scholte (1999) looked at the development of delinquency among arrested adolescent offenders and aimed to identify those criminogenic factors that predicted continued violence into young adulthood. Using a sample of (N=150) Dutch adolescents who had been in contact with police in The Hague in 1984, Scholte (1999) utilised measures of psychosocial functioning and longitudinal research to obtain data at three times. Results indicated that higher levels of delinquent behaviour during adolescence were associated with subsequent delinquent behaviour at the onset of adulthood. This finding is consistent with other research that implies that earlier onset of problem behaviour heightens the risk for increased behavioural pathology and is generally supportive of the idea that significant serious delinquency has "life course persistent' traits.

1.1.1 Theories of Offending Behaviour in Youth

Numerous theories have been proposed to explain the occurrence of delinquent behaviour and whether it will continue on into adulthood. Whether the belief is that delinquency is the expression of an unfolding disposition, training or the culmination of neurological, psychological and social damage, to the child, there is an assumption that such behaviour develops in some ordered fashion (Gottfredson & Hirschi, 1990; Moffit, 1993). General theorists, such as Gottfredson and Hirschi propose that all people exhibit varying degrees of offending propensity, whereas Moffitt and

Patterson suggested developmental typologies that anticipate the existence of specific groups of youths who follow different pathways to delinquency.

Control Theory

Gottfredson and Hirschi (1990) proposed a General Theory of Crime, in which they argued that all offending requires is: a) opportunity and b) a person who lacks the control to resist the immediate material rewards that such behaviour provides. For Gottredson and Hirschi, self control is "for all intends and purposes, the individual cause of crime" (Gottredson and Hirschi, 1990, p. 232). The reason for this they state, is because crime is a pleasurable way of pursuing self interest will immediate, short term, concrete rewards. The theory specifies low self-control as being the driving force behind offending behaviour and that delinquency cannot be attributed to genetic factors, social reinforcement, deviant peer association or economic status. As Gottredson and Hirschi (1990) view biological and neuropsychological individual differences as unimportant, this suggests that any effect these may have can be easily reversed by socialisation practices and/or are of little causal importance once self-control is considered.

Gottfredson and Hirschi (1990) describe a person with low self-control as having core traits of impulsivity, insensitivity, physicality, being present-focused, and having a low verbal range. They believe that these traits comprise a stable construct useful in the explanation of crime and further explain that this stable trait explains why offending would continue throughout life, which Gottfredson and Hirschi (1990) label as antisocial propensity. This theory further implies that other deviancy related behaviours, such as substance use, truancy and smoking, are merely differing manifestations of low self-control.

Importantly, low self-control is viewed as developing very early in an individual's life and remaining stable over the life course. The cause of low self-control, according to Gottfredson and Hirschi (1990), appears to be ineffective parenting. Citing research from the 1950's (Glueck & Glueck, 1950, McCord & McCord, 1959; cited in Gottfredson and Hirschi, 1990) Gottfredson and Hirschi (1990) state that discipline, supervision and affection tend to be missing in the homes of delinquents, that the behaviour of the parents is often poor and that the parents may have criminal histories themselves. Gottfredson & Hirschi (1990) contend that caring for the child, adequately supervising their behaviour and using effective discipline when necessary, will stop the onset of delinquent behaviour. The theory maintains that parental effects on delinquency should be indirect, that is operating through the direct effects on self-control, with the self-control of the parent serving as a model for the development of self-control within the child.

Gottfredson & Hirschi (1990) propose that offending requires little skill or planning, therefore the use of cognitive abilities for most crimes are minimal, and people lacking self-control need not possess or value cognitive or academic skills. They further theorize that people with low self-control

will tend to have low tolerance for frustration and will respond to conflict physical rather than verbally. Failure to acquire social and academic skills in childhood may produce an adolescent who has little commitment to the normative social process and therefore has little to lose by engaging in serious antisocial behaviour.

Evaluation of Control Theory

Perrone, Sullivan, Pratt & Margaryan (2004) explored parental efficacy, self-control and delinquency in a sample of 13,500 American youth and their families. Their results indicated that parental efficacy is an import predictor of youth self-control, and that self-control partially mediates the relationship between parental efficacy and delinquency. These results are in direct contrast to Gottfredson & Hirschi's (1990) proposition that self-control should fully mediate the parental efficacy – delinquency relationship. Perrone and colleagues (2004) research indicated the importance of family context, not just the patterns of parental monitoring and supervision to explain delinquency.

A further study on parental contributions to low self-control and delinquency (Hay, 2001) looked at a sample of Southwestern High school students (N= 197) on measures of parental monitoring and discipline, low self-control and delinquency. Results indicated that parental monitoring-discipline significantly affected low self-control and low self-control significantly affected delinquency and partially mediated the effect of monitoring-discipline (Hay, 2001). Although self-control theory received a little empirical support, the findings did not appear to give the ultimate explanation of self-control or crime and deviance that Gottfredson and Hirschi sought to provide. This research reached a similar assumption as Pratt and Cullen (2000) that while self-control theory has clear advantages, it's explanatory power falls short of the expectations derived by Gottfredson and Hirschi (1990).

Given Gottfredson & Hirschi's (1990) theory that biology isn't a significant factor in the development of delinquency, research that finds a potential genetic heritability influencing levels of low self-control in children could pose a serious counter argument. Wright & Beaver (2005) reviewed whether or not there was a genetic component of parental contribution within Gottfredson & Hirschi's theory. Using a sample of 1000 children from the Early Childhood Longitudinal Study, Kindergarten Class of 1998-1999 they measured low self-control and socialization through parental and teacher reports. Their results indicate that parenting measures were inconsistently and weakly associated to contemporaneous measures of child self-control in Kindergarten and were inconsistently related to prospective measures of self-control in the first grade. Wright & Beaver (2005) also report that in their study parental withdrawal from the child was associated with an increase in child low self-control. A decrease in self-control in childhood would also increase the likelihood that children would not form pro social ties with others.

New Zealand research based on the Dunedin Cohort (Wright, Caspi, Moffitt, Silva, 2001) hypothesised that the effects of social ties on crime vary as a function of individuals' propensity for

crime. Their results indicated that participants who displayed the lowest self-control committed the most crime, even when controlling for the social ties they had formed. Authors also reported that social ties significantly deterred criminal behaviour when controlling for levels of self-control. This means that strong pro-social bonds were more effective at deterring offending in individuals with low to moderate levels of self control. This is contrary to Gottfredson & Hirschi's (1990) theory as they state that all people possess the motivation for criminal behaviour, therefore having pro-social bonds should significantly and equally deter offending behaviour across the entire population.

Smith & Brame (1994) focused on how Control theory could explain recidivism. They argued that while Control theory provided an explanation as to how self-control and therefore ties to social bonds could restrain the inception of delinquency; it failed to account for the continuance of offending behaviour. According to Control theory if an individual has a strong bond to conventional attachments, commitments and beliefs, then they would restrain from participating in criminal behaviour, as the consequences would be large, such as destruction of marriage, family and loss of employment. As Smith & Brame (1994) point out, it is illogical to assert that an individual's stake in conformity would stop future delinquency if those stakes were insufficient to restrain delinquency to begin with.

Smith and Brame (1994) using a sample of 1,488 youths from the National Youth Survey wanted to identify if those factors that lead to the initiation of delinquency were the same as those that predict continued delinquency. Their results indicate that these factors are different and that for youth who have delinquent histories, exposure to antisocial peers may neutralize any strong conventional social ties that are held. This suggests that antisocial peers' ability to influence individuals is effective only if youth have prior offending behaviour.

Developmental Theories

In recent years, a number of researchers have suggested the developmental course of delinquent behaviour represents multiple typologies rather than a single one. That is, the delinquent population is assumed to consist of various individual subgroups, each following a proscribed pathway that may be associated with different aetiologies and outcomes. Researchers have postulated that there are two distinct groups of delinquents, those who begin offending during childhood and those who start during adolescence. Importantly if researchers chose to only examine adolescent offending they would miss the different developmental trajectories of these two groups as well as the potentially different aetiologies. Conversely there is also a subgroup of youth with early onset of antisocial behaviour that desist antisocial behaviour prior to adolescence.

Indeed Moffitt and Patterson have proposed distinct tracts into delinquency and have used age of onset of antisocial behaviour as a key defining attribute, suggesting that predictions regarding future offending can be made. Research indicates that one of the biggest predictors of future offending is

prior offending. Given that statement, does this mean that a youth who commits an offence is doomed to be a criminal his/her entire life?

Research conducted by Fergusson, Horwood & Nagin (2000), on a New Zealand cohort of 900 children, born in 1977, suggests that individuals who display chronic offending from a young age have a persistent pattern of antisocial behaviour throughout their life. Other studies have also reinforced the theory that the earlier in life a youth begins offending, the higher the possibility of antisocial behaviour having a life long impact (Moffit, 1993; Patterson et al., 1989). However research also implies that youth who begin to display delinquent behaviour after the age of 14 years have a lower probability of continuing on into chronic life long offending (Loeber, Wung, Keenan, Giroux, Stouthamer-Loeber, Welmoet, & Maughan, 1993).

A Developmental Taxonomy

Research conducted on a New Zealand cohort (Individual's born in Dunedin between 1972-1973, N=1037) proposed a developmental taxonomy for the development of youth offending. Moffitt (1993) differentiated between life-course persistent (L.C.P) offenders and adolescent limited (A-L) offenders. She proposed that a few delinquents begin their offending behaviour at a young age and commit the bulk of offending for a particular cohort throughout life (life-course persistent). Other delinquents begin and end their offending behaviour during adolescence (adolescence limited).

Moffitt's (1993) central hypothesis is that L.C.P offenders suffer from neuropsychological and/or biological deficits, are exposed to disadvantaged childhood environments and are almost exclusively male. Moffitt (1993) argued that neuropsychological deficits are significantly less likely to appear in populations of females and therefore were less likely to be represented in the L.C.P population. While A-L offenders' antisocial behaviour occurs in response to wanting more autonomy, independence, maturity and are equally male or female.

Moffitt (1993) proposed that youth who follow a life course persistent pathway have a biological marker resulting in antisocial behaviour. She theorised that these youth are likely to have neuropsychological deficits such as reading and speech difficulties, as well as deficits in executive functioning. If the child also comes from a poor social environment then the interaction between neuropsychological dysfunctions and this disadvantaged environment increases the child's risk for deviant behavioural outcomes. This interaction may result in a child, who is inattentive and impulsive by nature, and subsequently parents maybe unable to cope with the challenges this type of behaviour presents and have difficulty enforcing conventional norms. Moffitt (1993) implied that neuropsychological dysfunctions interrupt normal cognitive development and therefore increase the vulnerability to the criminogenic aspects that may be present in a disadvantaged environment.

Children's predispositions may induce intensified reactions from their environment and may also leave them more vulnerable to criminogenic factors. Individual characteristics such as poor self

control, impulsivity and inability to delay gratification increase the risk that antisocial youth will make immutable choices that close the doors of opportunity. These characteristics are similar to those proposed by Gottfredson and Hirschi (1990). The life style and behaviour of L.C.P antisocial persons is increasingly preserved and supported by narrowing options for conventional behaviour (Loeber & Farrington, 2000). As the individual becomes increasing obnoxious in their behaviour, others avoid interacting with them, limiting situations for pro-social behaviour to occur.

For A-L the onset of antisocial behaviour occurs near puberty in response to social and developmental issues, rather than individual traits or characteristics. Moffitt (1993) proposed that youth who were physically mature by the age of 15 years had the highest risk for becoming A-L in the offending behaviour. Unlike L.C.P's, A-L's are believed to engage in behaviour that symbolises autonomy, independence and maturity and is not necessarily violent in nature.

Accordingly Moffitt (1993) reasoned that A-L adolescents are drawn to L.C.P youth because of the seeming maturity and adult behaviours enjoyed by the L.C.P. Life-course persistent youth appear to have ready access to tobacco, alcohol and other drugs, which can be viewed by adolescent limited youth as symbolising maturity and independence. By associating with L.C.P, Moffitt (1993) hypothesized that A-L were involved in what she labelled social mimicry. Hence A-L youth participate in offending due to the peer group influence as opposed to an individual desire to commit an offence. Moffitt (1993) further implies that A-L persons do not display stability in their behaviour across situations and that their offending behaviour maybe contingent on a reinforcement/punishment schedule, reverting to delinquency when it serves an instrumental function.

Evaluation of a Developmental Taxonomy

In a study focusing on Moffitt's L.C.P hypothesis, Piquero & White (2003) using a sample of 987 African Americans from the Philadelphia National Collaborative Perinatal Project (NCPP) looked at measures of cognitive abilities recorded at three different times. Their results indicated that males and individuals who incurred a higher number of school disciplinary acts and had lower scores on cognitive tests were significantly more likely then their counterparts to exhibit L.C.P offending behaviour patterns (Piquero & White, 2003).

In further research using a sample (N=207) from the same population, Tibbets & Piquero (1999) used low birth weight as a proxy for increased likelihood of neuropsychological dysfunction. Working on the assumption that low birth weight was related to Central Nervous System dysfunction, they focused on the interaction between low birth weight and a disadvantaged environment as well as Moffitt's prediction that L.C.P were almost exclusively male. The results indicated that low birth weight interacted with a disadvantaged familial environment to predict early onset of delinquency and that these interactions were more important for males than females. However the researchers imply that these neuropsychological deficits can be addressed by improving the social, familial and economic environments of the children (Tibbets & Piquero, 1999).

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Further research conducted by Moffitt and Caspi (2001) indicated that while L.C.P and A-L exhibit similar mean levels of delinquent behaviour, they have different overall levels of risk. They also report that when prior behaviour history is controlled, peer influence no longer predicts delinquency of L.C.P, but does continue to predict offending behaviour in A-L. This is consistent with the hypothesis that L.C.Ps attract delinquent peers during adolescence, whereas A-L are attracted to and influenced by delinquent peers.

Piquero & Brezina, (2001) focussing on A.L offenders, conducted research on 1,886 youth involved in the Youth Transition Survey, and reported that maturity and desire for autonomy are more generalised risks, than specific risk factors for delinquency, which is inconsistent with Moffitt's hypothesis. However they also found that there was a significant interaction between maturity and behavioural autonomy with peers on rebellious delinquency, but not violent delinquency. This indicates that peer influence coupled with early physical maturity provide important stepping-stones towards A.L delinquency.

Due to the prevalence of youth offending Moffitt (1993) proposed that it is essentially normative to engage in some antisocial behaviour during adolescence. So why is it that some adolescents abstain from delinquency? Moffitt (1993) goes on to explain that some teenagers lack the opportunity to engage in social mimicry perhaps because they live in relatively rural or isolated areas, or perhaps because school structures constrain access to L.C.P models, or personal individual characteristics may exclude them from delinquent groups. Belonging to cultural or religious groups that restrict adolescent access to adult privileges or not sensing the maturity gap and therefore lacking the hypothesised motivation for engaging in delinquency are other rationale offered by Moffitt (1993).

Development of Coercive Interactions

Patterson, DeBaryshe & Ramsey (1989), describe a Social Learning Theory (SLT) of delinquent behaviour, which suggests that the *Coercive Interaction Patterns,* within families are responsible for the onset of juvenile delinquency. Specifically coercive parenting patterns encourage behaviours that lead to rejection by pro-social peer groups and to association with deviant peers (Henry, Tolan & Gorman-Smith, 2001).

Behavioural reinforcement from family members encourages the child to engage in antisocial behaviours. This occurs because the youth's behaviour leads to predictable responses from the family environment at successive stages. For Example: Interchanges between a mother and her child could be characterized by high rates of commands and orders by the mother; the child responds by increasing their rates of oppositional behaviour. A lack of follow through by the mother when she utters warnings further reinforces to the child that adverse behaviour will result in mum 'backing off' with demands. Children learn that they will "win" when they respond aversively, which escalates

with time. Parents ultimately stop trying to discipline their child in order to achieve a superficial peace and quiet.

According to Patterson and colleagues (1989) the most important factors for the continuation of coercive behaviours is negative reinforcement and escape-contingencies. This is where the child stops unwanted interference from parents through the use of adverse behaviour (Patterson et al., 1989). For the child engaging in this behaviour results in immediate reward, this will continue unless delay of gratification and pro-social techniques are taught. For the family, coercive behaviours become functional, as these behaviours continue, they escalate in intensity.

Research conducted by Patterson and colleagues (1991) support the theory that disrupted parent practices are causally related to child antisocial behaviour. In studies involving several hundred primary school aged boys, parenting practises and familial relation constructs accounted for 30-40% of the variance in general antisocial behaviour. Patterson and colleagues (1991) further implied that disrupted family interactions that contribute to the development of antisocial behaviour could inadvertently contribute to future involvement in delinquent peer groups. They further suggest that for early starters delinquency is a continuation of childhood aggression and an earlier form of adult criminality (Tolan & Gorman-Smith, 1998).

Parent-child relationships play a key factor in the aetiology of delinquency; therefore it is important to investigate why some parents continue to use maladaptive parenting practises. Patterson and colleagues (1991) propose that early onset antisocial behaviour is largely shaped by a series of family processes, such as inept discipline, poor monitoring and impaired problem solving that create a socialisation process in which children learn that coercive and antisocial behaviours have an adaptive value (Fergusson, et al., 2000) Patterson and colleagues (1991) termed this Social Mold theory, were the lack of parental support and control result in children with problem behaviour, who may not identify with their parents and therefore do not learn to internalise parental and societal norms. By contrast later onset youth (after 14 years of age) do not experience the marked family difficulties that those in the early onset group do.

Similar to Moffit (1993), Patterson and colleagues (1989) proposed that there are two paths to delinquency, an early and late starter paths, with those who begin offending in mid adolescence being primarily under the influence of a deviant peer group. Patterson and associates (1989) imply that it is age of initiation into the coercive cycle that is the key variable separating these two paths, because this will determine the level of social skill acquired to date. Youth initiated into the coercive cycle early are believed to have a lower level of social skills due to inept parenting (Patterson et al., 1989). Participation in these initial coercive interchanges when very young results in a child on the early starter path.

An important premise of this model is that the early starter path provides an explanation for why a considerable number of adolescents continue on to become chronic life long offenders. Once a child

heads down this path, they move through sequential stages, identifiable antisocial behaviours are observed, rejection by normal peer group and finally the child experiences failure in school. Patterson and colleagues (1989) proposed that by default these socially rejected antisocial youth form friendships with each other, forming deviant peer groups. The result of moving through these key stages is that the child loses opportunities to acquire the necessary social skills.

Fergusson, Horwood & Nagin (2000) explored whether offending history could classify youth into delinquent trajectories and if these trajectories corresponded to the early/late groups predicted by the Moffitt and Patterson theories. A study of a New Zealand cohort of 936 youth born in mid 1977, reported that adolescents who display chronic offending behaviour tended to have an increased number of psychosocial and individual risk factors than adolescents who displayed low to moderate rates of offending (Fergusson et al., 2000). These factors included coming from a single parent, low socio-economic status family, having parents who have a history of alcoholism, substance use and criminality, as well as having early conduct and attentional problems.

In determining the provision of the most effective treatment it is important to know which youth offenders are life-course persistent as they may benefit more from early intervention then would adolescent limited offenders who may 'grow out of' offending. One method to review where intervention would be of the most benefit is to identify the types of behavioural issues that occur within a youth's life, such as childhood behavioural disorders, like Conduct Disorder (CD) or Oppositional Defiant Disorder (ODD), drug dependence in adolescence, and familial violence. These life events form Risk Factors, which can be separated into two distinct areas, Static risk factors and Dynamic risk factors. Generally the more risk factors identified in youth, the greater the chance of a disordered adulthood

Static Risk Factors are those that cannot be altered, such as age of first offence, number of prior offences, and total time in custody, gender and previous life experience. If treatment interventions were targeted at this set of Risk Factors, then change in delinquent behaviour would be minimal, as the past cannot be changed. Dynamic Risk Factors are those that can be altered, such as impulsive behaviour, associating with delinquent peers, poor parental monitoring and substance use. These second set of Risk Factors are often described as Criminogenic Needs, as they are the needs of the individual that lead to offending behaviour, interventions usually target these Risk Factors.

1.1.2 Peer Influence

During adolescence youth begin to spend an increasing amount of time with peers and less time with the family unit. Some parenting and family relationship characteristics promote association with deviant peers, which in turn increases the likelihood of delinquent behaviour. Research suggests that inconsistent parenting and lack of support could result in behaviour problems because they disrupt the internalisation of parental norms and increase the risk of association with deviant peers.

Conversely, youth antisocial behaviour may increase parental tolerance of deviant behaviour resulting in decreased attempts at parental control and consequently encouraging the formation of deviant friendships (Stice & Barrera, 1995).

Involvement with deviant peers has been reported to be the most proximal risk factor for delinquent involvement (Elliott, Huizinga, Ageton, 1985 cited in Poulin, Dishion & Haas, 1999). Deviant peer groups present opportunities to engage in offending behaviours, and provide young people with beliefs, motivation and rationalization to justify this behaviour (Dishon 1990, cited in Simons, Chyi-In, Conger & Lorenz, 1994; Patterson et al., 1989).

Research findings on antisocial adolescent friendships are mixed, as the development of antisocial behaviour in childhood is correlated with peer rejection (Coie & Kupersmidt, 1983). Conversely research also indicates that association with deviant peers is one of the strongest predictors of delinquency and substance use (Elliott, Huizinga, Ageton, 1985; cited in Poulin, et al., 1999). This paradox may reflect the socializing influence of friends or a tendency for deviant peers to be drawn to each other.

Two models concerning the socializing influence of peers have been proposed: selection vs. influence, both of these models can be associated with two opposing theories, Control and Social Learning. Choosing to form friendships with similar others may reflect an innate preference, rather than an influence on the developmental trajectory of the youth.

Control theory implies that the quality of a relationship is a bond that's created to bind to a course of action. Hirschi (1969) maintains that there are four points of that social bond attachment, commitment, involvement (involvement in conventional activities) and belief (Belief that following the prevailing convention is the right thing to do). Therefore if the quality of a relationship between an adolescent and his/her parents is positive then the adolescent has a stronger attachment to society and its rules and hence a smaller chance of delinquency. Control theory also states that individuals who do not develop strong attachments with their parents will not use them as role models. This decreases the probability of them acquiring the appropriate socialisation skills and values that promote acceptance of other authority figures. Proponents of Control theory believe that relationships between delinquent youth usually involve less trust and less support than friendships between conventional youth (Pleydon & Schner, 2001; Simons et al., 1994).

However New Zealand research based on the Dunedin Cohort (Wright, Capsi, Moffitt, & Silva, 2001) found that strong pro-social bonds to education, employment, family and partners deterred offending most strongly in people with low to moderate self control. While pro-social bonds acted as a deterrent for people with high self-control, it was not the bonds themselves acting as the deterrent, rather individual characteristics. In contrast Gottfredson & Hirschi's theory indicates that pro-social ties act as a stronger deterrent for individuals with low-self control because of the major positive

turning point it can create in their life. Conversely having strong antisocial bonds can further promote low self-control and therefore offending behaviour.

Alternatively Influence or Social Learning theory implies that friendships will modify social behaviour, resulting in changes in behaviour such as drug use, delinquency and violent behaviour (Poulin, et al. 1999). Inadequate parental monitoring and discipline when young results in adolescents associating with delinquent peers. Attachment to deviant peers increases the commitment to those peers, therefore increasing the relationship quality and through the use of reinforcement this influence is further strengthened (Dishion, Spracklen, Andrews & Patterson, 1996). According to Social Learning Theory, someone or something cannot influence an individual unless there is some vested interest or attachment for the youth (Cotterell cited in Pleydon & Schner, 2001).

Friendships of youth offenders are those of convenience, often based on proximity, rather than common interests, this would further support the selection model or Social Learning Theory of deviant peer friendship. Dishion and colleagues (1996), using a sample of boys involved in the Oregon Youth Study (OYS), focused on the social processes within friendships that were associated with escalation in problem behaviour (Dishion, et al., 1996). Using a specially devised coding system, they discovered that antisocial dyads positively react to rule-breaking discussions, while non-deviant dyads reacted positively to normative discussions. This evidence further supports the hypothesis that antisocial peers negatively influence each other to commit further acts of deviancy.

Using a sample (N=185) from the same population as Dishion and colleagues (1997), Poulin and associates (1999) focused on the unique contribution of friendship quality to the possible influence of deviancy training within adolescent male friendships. Their results indicated that boys with very low quality friendships and who were delinquent at age 13-14 were those who escalated the most in offending (Poulin et al., 1999). This is contrary to the Social Learning perspective, which implies that the more reinforcing the friendship, the higher the possible influence.

Previous studies on the overall quality of youth offenders' friendships indicate that these are not relationships full of warmth and support; instead they appear to be of shorter duration, less satisfying, characterised by negative reciprocity and usually ending in acrimony (Dishion, Andrews & Crosby; 1995). However in research conducted by Pleydon & Schner (2001) results indicate that there are no differences between delinquent and non-delinquent friendships in terms of intimacy, attachment, help, closeness, loyalty, security and trust. Deviants are not viewed as differing from conventional peers in regard to number or quality of relationships with peers, rather, their deviance reflects the types of actions that are encouraged and reinforced by their friendships (Simons et al., 1994).

A study conducted by Dekovic and colleagues (2004) looking at N= 603 male and female youth of Moroccan, Turkish, Surinamese and Dutch ethnicity, examined whether parents and peers played similar roles in the development of antisocial behaviour for adolescents from different ethnic backgrounds. The researchers also wanted to know if there were any correlations between antisocial

behaviour, measures of the youth-parent relationship and deviant friendships and if they varied due to ethnicity. Their results indicate that involvement with delinquent peers has a strong positive relationship with adolescent engagement in antisocial behaviour and there was no difference in engaging in delinquency between ethnic groups (Dekovic, Wissink & Meijer, 2004).

1.1.3 Substance Use

Many people find adolescence to be a challenging and demanding time of life. Some seek to relieve the stress and tension through risk behaviours such as substance use, delinquency and early sexual behaviour, which only exacerbate the difficulties they are facing (Wright & Fitzpatrick, 2004). Externalising disorders in youth are strongly correlated to increased substance use and escalation of substance related issues during adolescence. Studies indicate that the more serious the delinquency, the higher the level of substance use (Huizinga & Jakob-Chien, 1998). The literature supports the existence of a complex substance use-crime relationship (Ward, Mattick & Hall, 1994; Huizinga & Jakob-Chen, 1998).

Although research has established that a substance use-delinquency relationship exists, it is still unclear as to whether delinquency leads to substance use, substance use results in offending or if the connection is coincidental and reflects an underlying individual and/or societal issue (Huizinga & Jakob-Chen, 1998). Young people often experiment with drugs, but that doesn't mean that all or most chronic delinquents are chronic substance users. It would also be incorrect to assume that all chronic substance users are chronic delinquents (Elliott et al, 2005; Dryfoos, 1990; cited in Spooner, 1999; Huizinga & Jakob-Chen, 1998).

Research indicates that the greater the offending, the higher the severity and frequency of substance use, in fact persistent substance use has been strongly correlated with continued delinquency (Huizinga & Jakob-Chen, 1998). However in understanding this correlation one also needs to realise that a proportion of offences committed by juveniles are directly related to substance use, including theft to purchase alcohol or drugs, drug dealing and being under the influence while offending.

Antisocial behaviour and substance use in early adolescence, predicts the use of marijuana and other illegal substances in later adolescence (Clark, Kirischi & Moss, 1998; Wright & Fitzpatrick, 2004) It is further known that early starters have a heightened risk to develop a host of secondary problems, including poor school achievement, affiliation with deviant peers, substance use and depressive symptoms. Complicating the interpretation of this research is evidence suggesting that substance use increases antisocial behaviour. Irrespective of whether delinquency or substance use occurred first, continued use increases the rate at which offences are committed and maintains criminal careers (Dobson & Ward, cited in Patterson et al., 2000).

Peerson and colleagues (2004) conducted a longitudinal study on 461 Icelandic prisoners. Their focus was on the differences in psychological, offending histories and substance use histories

between recidivist and non-recidivist individuals. Their results indicate that recidivistic youth in comparison to non-recidivistic youth had more extensive criminal histories, and a greater frequency of substance use (Peerson, Sigurdsson, Gudjonsson & Gretarsson, 2004). They conclude that their results appear to concur with those of McMurran (2001) who states that lifestyles of crime and substance use, lead people into environments which breed further crime and substance use, through adherence to cultural norms. McMurran (2001) further states that use of illicit drugs is in itself a crime and therefore directly influences recidivism

High attrition rates are a concern in the area of substance abusing youth. For example in therapeutic communities addressing youth substance abuse completion rates range from 10% to 18%, with around one-third of youth dropping out within one month. Treatment programmes that offer family focused treatment produce completion rates of approximately 50% (Henggeler, Pickrel, Brondino & Crouch, 1996).

Youth Drug Court

In recognition of the complex drug-crime relationship (Ward, Mattick & Hall; 1994) in New Zealand (Carswell, 2004) a Youth Drug Court (YDC) pilot initiative began in Christchurch in March 2002. The target group for this pilot were recidivist young people aged 14-16, who had a moderate to severe alcohol &/or drug dependency linked to their offending behaviour.

An evaluation of the pilot indicated that of the 30 young people who had gone through the YDC, at the time the report was released, 22 had either stopped or reduced their alcohol &/or drug abuse (Carswell, 2004). Alcohol and cannabis were the commonly used substances by these youth. The annual rate of each youth's offending while attending the YDC was compared to their annual rate of offending prior to their attendance at YDC. For nineteen youth, their offending levels were lower while for nine their offending behaviour increased. At the time of the evaluation 28 youth had been through the pilot and two were in the process of completing it. Of the 28, 17 had completed the requirements of the youth court, and the remaining 11 were transferred back to Youth Court for non-completion (Carswell, 2004).

Research conducted by Dishion and colleagues (1995b) found that the strongest proximal correlate of early onset substance use was involvement with deviant peers (Wright & Fitzpatrick, 2004). This could be explained by the fact that low parental monitoring increases the opportunity to associate with deviant peers; the nature and type of deviant friends are consistent and powerful predictors of substance use (Dishion, Capaldi, Spracklin & Li, 1995b). Further examinations also revealed that the conversations of antisocial boys with their best friends correlated with a deviancy construct and predicted escalation in substance use from age 15 to 17 (Dishon et al, 1995b; Poulin, et al., 1999). Conversations between the dyad about rule breaking were related to an increased possibility of escalating from abstinence to alcohol, tobacco and marijuana use during the next two years. Research

has consistently associated substance use and abuse in early adolescence to parent-child interactions as well as inappropriate parenting practices (Liddle, Rowe, Dakof, Ungaro & Henderson, 2004).

Parenting practices characterised by unclear expectations for behaviour, poor monitoring, few and inconsistent rewards for positive behaviour coupled with excessively severe and inconsistent punishment for undesirable behaviour, increase the risk of delinquency and drug abuse (Hawkins, Catalano & Miller, cited in Henry et al. 2001). Rodgers and Pryor (1998) also cite parental separation as an added risk factor for increased substance use. Studies also indicate that parental influence is a stronger determinant of substance use for younger adolescents, while peer influence is more significant for older adolescents (Windle, 2000).

Stice & Barrera (1995) examined the full reciprocal relations of both parental support and control in relation to adolescent substance use and externalising symptomlogy in a community sample of adolescents. Using longitudinal data (N=441) that included children (mean age = 12.7, *SD*=1.5) of alcoholics (53%) who have an increased risk of developing problem behaviours, they measured perceived parental control and support, externalising symptoms and substance use. Their results indicate that deficits in both parental support and control prospectively predicted adolescent substance use (Stice & Barrera, 1995). The researchers also concluded that while adolescent externalising symptomlogy prospectively predicted parental deficits in support and control, perceived parenting was not related to later externalising symptomlogy (Stice & Barrera, 1995). Further to this if parents have substance issues themselves then this impacts on their ability to support and control their children.

Children of parents who have serious substance use issues are at increased risk for psychopathology (Clark, et al., 1998) Research by Clark and colleagues (1998) measured preadolescent and adolescent tobacco, alcohol and cannabis use in children (N=266) of parents with substance use disorders (SUD). Their research suggests that children whose parents have been classified with a SUD using the DSM-III-R (Clark, et al., 1998) are more likely to have higher rates of regular alcohol use and trend towards a higher rate of cannabis use. They concluded that early adolescent regular alcohol use was associated with a parental history of SUD and disruptive behaviours (Clark, et al., 1998).

1.2 Familial Characteristics of Delinquent Youth

Research indicates that parental attitudes, history and family dynamics contribute considerably to the development of social maturity in children (Haapasalo, 2001). Studies have identified a range of family factors, such as low socio-economic status, marital discord and solo parenting as reliable covariates of externalising behaviours in children (Lahey, Waldman & McBurnett, 1999). Of these covariates, parenting practises are among the most powerful predictors of early antisocial and offending behaviour (Loeber & Farrington, 2000). Specifically, three parenting practices are believed to be salient in contributing to early conduct problems; parent-child conflict, monitoring and lack of positive interactions. These daily parent-child interactions are a significant aspect in the development of delinquent behaviour (Patterson, et al., 1989). Research also suggests that the family environment is an important factor contributing to the development of juvenile delinquency and antisocial behaviour (Matherne & Thomas, 2001, Tolan et al, 1997).

1.2.0 Parent-child conflict

Loeber and Stouthamer-Loeber, (1986) define parent-child conflict as being related to discipline practices, support and emotional connection within the family. This construct describes family patterns of behaviour in which members are enmeshed in escalations of conflict. Arguments and conflict may be centred on the child's continued disobedience in the home, which if left unchecked could generalise to other situations outside the home. Parental discipline is often lacking or inconsistent, due to a fear that the child's antisocial behaviour may escalate. If boundaries and rules regarding behaviour are absent or inconsistent, then new and/or repeated attempts by parents to enforce these may result in youth becoming more evasive, outright obnoxious or violent. This could result in family members emotionally disengaging from the antisocial youth, and a lowered level of warmth and affection between the parents and youth. At the extreme end of the scale parents no longer enforce boundaries or rules and the youth becomes the dominant and controlling entity within the family impacting on the parent-adolescent relationship (Loeber & Stouthamer-Loeber, 1986).

The quality of the parent-adolescent relationship may be important in determining the risk of antisocial behaviour. Relationship quality refers to the emotional climate or atmosphere of the relationship, therefore the quality of the relationship is a vital feature of the relationship and the context in which interactions occur. It has been suggested that relationships defined as having a negative quality, that is, being high in conflict and low in emotional bonding, are related to increased levels of externalising behaviours (Dekovic, 1999). Negative parent-adolescent interactions characterised by conflict, low warmth and a lack of closeness have emerged as risk factors for involvement in antisocial behaviour.

Chambers, Power, Loucks & Swanson (2001) report that the parent-adolescent relationship has more impact on antisocial behaviour than any other dysfunction within the family unit such as marital discord or separation. Moreover adolescents' perception of parenting behaviour has a greater effect

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then actual parental behaviour (Parker & Benson, 2004). It has been suggested that antisocial children may feel rejected by their parents (Barnow, Lucht & Freyberger, 2005) Snyder & Huntley, (1990, cited in Dekovic, Wissink, Meijer, 2004) report that the relationship between antisocial adolescents and their parents appears to be characterised by a lack of intimacy, a lack of mutuality and more blaming, anger, and defensiveness than in normal families. Research indicates that separation from the mother has more negative effects than separation from the father (Haas, Farrington, Killias & Sattar, 2004; Juby & Farrington 2001).

Research conducted by Chambers and colleagues (2001) on 122 incarcerated male offenders indicated that maternal relationship was an important factor in the aetiology of offending behaviour. Youth who had mothers that were more caring viewed their most serious offending as being dangerous and destructive. While youth who had mothers who were more controlling viewed their offending as being under their control. This indicated that youth who had mothers who were more caring and controlling were aware of the impact of their offending on others and may desist in the future. If a youth perceives their mother to be affectionate and they have a warm relationship with her, then this could act as a protective factor.

However parents may be able to complement each other, e.g., one parent may be very low in control, whereas the other may be very high. Having this type of parenting duo could mean that children have a balance in family communication and parenting style. It is also possible that disagreements in child rearing may produce inconsistent parenting and have a negative effect on the child (Chambers, et. al., 2001). Parenting practises are among the most powerful predictors of later outcomes in children and constitute opportunities for interventions. Child delinquents, compared to later onset offenders, have 2-3 times the risk of becoming tomorrow's serious offenders (Moffitt, 1993; Patterson et. al., 1989).

1.2.1 Parental Monitoring/Neglect

Lack of parental monitoring represented at its extreme by neglect and poor discipline methods and conflict about discipline has been related in several studies to participation in delinquent and violent behaviour for a range of populations (Gorman-Smith, Tolan, Zelli & Huesmann, 1996; Patterson, Reid, & Dishon, 1992, cited in Poulin et al., 1999). Research conducted by Henry and colleagues (2001) indicate that families' affect delinquency directly through their effects on peer affiliation. The results of this study support the widely cited finding that poor family functioning is related to participation in antisocial and delinquent behaviour and most of the major types of problem behaviours (Gorman-Smith Tolan, Loeber & Henry, 1998).

Haapasalo (2001) reported that early conduct problems and antisocial, aggressive, offending behaviour has been associated with authoritarian, harsh, erratic, punitive discipline, along with hostile, strict and rejecting parental attitudes. Conversely, permissive and lax parenting observed through lack of monitoring and supervision also increases the risk of youth engaging in antisocial behaviours. Parents who fail to adequately monitor their youth's whereabouts, friendships and

activities may result in youth who believe that their parents do not care and are not interested in them (Loeber & Stouthamer-Loeber, 1986). Therefore these youth may withdraw from any involvement with their parents and resist any intrusion or interest shown by parents into their lives.

Research has consistently found that authoritarian and permissive parenting style's, are more likely to contribute to externalising behaviours such as aggression and substance abuse in youth (Dekovic, Janssens, Van As, 2003, Haapasalo, 2001). Authoritarian parenting has been described as power-oriented parenting that uses punitive and coercive child rearing practises, demanding obedience, whereas a Permissive parenting style is described as being overly lax with discipline and having difficulty rule setting, exercising control over ones child and monitoring (Haapasalo 2001).

According to Loeber & Stouthamer-Loeber (1986), monitoring isn't just related to parents knowing where their children are and who they are spending time with, monitoring also concerns the amount of time parents spend positively interacting with their youth. Part of monitoring one's child is 'knowing' that child, who their friends are, if they use substances, whether they went to school that day. Parents who are able to talk with their adolescents about a range of topics indicate to their youth that they are interested in their lives and what is happening for them.

1.2.2 Lack of positive interactions

Families with fewer skills and resources may be strained by the emergence of antisocial and/or delinquent behaviour and might have increasing difficulty providing the structure and support necessary to have a positive impact on youth behaviour. This escalating cycle may result in increasing family problems, less ability to manage and control youth behaviour, and continued or escalating delinquent involvement.

Although families' functioning may affect youth delinquent behaviour, it is possible that youth behaviour affects family functioning. Serious chronic offenders may be so disruptive to a family that multiple problems in family functioning arise. Youth participating in serious and violent offending may be so difficult to parent that families may choose to spend less time positively interacting with them. Although direction of causality can never be definitively determined, it is likely that what actually occurs is a transaction between family functioning and youth behaviour over time (Tolan & Loeber, 1993). As the child matures their antisocial temperament increases as they realise that this behaviour is functional for them.

Lahey, Waldman & McBurnett (1999) proposed that children, who are at greater risk of displaying antisocial behaviour, begin early in life displaying an oppositional temperament. As a toddler this behaviour is characterised by irritability, temper tantrums and anger, by childhood dysfunctional interactions with caregivers and others have altered difficult infant temperament into arguing, vindictiveness and wilful misbehaviour (Lahey et al., 1999). Parents who have antisocial tendencies or depression are posited to have low thresholds for responding appropriately to adverse child

behaviours. Hence they often react to their child's oppositional behaviour with coercive and harsh parenting styles. Parents who respond inappropriately to their child's aversive behaviours are more likely to promote antisocial behavioural tendencies then discourage them. It may be that the relationship is reciprocal; serious chronic delinquents may be so disruptive to family functioning and parenting practices that multiple problems arise within the family (Johnson, Smailes, Cohen, Kasen & Brook, 2004; Henry, Tolan, & Gorman-Smith, 2001; Gorman-Smith et al., 1998).

However parenting style is not the only familial contribution to antisocial behaviour. Other family issues such as parent-child relationships, parental substance use or other psychopathology and marital relationships also contribute to family characteristics and challenges. It is unclear as to why some parents engage in maladaptive family management practises. Explanations for this include familial history of antisocial behaviour, demographic variables such as a disadvantaged socio-economic-status and other stressors including marital disharmony or separation all of which impact on family functioning. In fact research by Patterson and colleagues (1989) suggest that lower socio-economic parents are more likely to use physical discipline, be controlling of their child's behaviour, use authoritarian parenting styles and engage in less frequent verbal and cognitive stimulation (Patterson et al, 1989).

An evaluation of the literature on the impact of parental separation conducted by Rodgers and Pryor (1998) estimated that youth from broken homes had twice the risk of delinquency than youth from intact homes. Wells & Rankin (1991) obtained similar results, but estimated the risk of delinquency in youth from broken homes to be 10-15% higher than that of youth from intact homes. In the Dunedin cohort, even after controlling for behaviour problems at age 5, parental disagreements regarding discipline and the number of changes in care-giving during childhood both made significant contributions to stable antisocial behaviour across middle childhood (Fergusson et al., 2000). It is not necessarily having a single parent that increases risk, but the level of parental conflict prior to separation, (Haas, et. al., 2004) which may heighten risk. Also single parents may find it harder to adequately monitor their children.

Research has established that youth from single-parent families and blended families may be more vulnerable to developing externalising behaviours (Haas, et al., 2004, Matherne & Thomas, 2001). Single or adolescent parenthood may not confer risk on their own, but often co-occur with true risks, e.g. psychopathology, poor parenting. However it has been suggested that youth from intact homes that are high in conflict also have an increased risk of antisocial behaviour.

Although children with single parents maybe exposed to more stressful life events, data from the Christchurch Child Development study show that the association between family separation and the risk of offending by age 13 is 2.5 times stronger in families characterised by moderate to high pre-divorce conflict than in conflict free families (Fergusson, Horward, Lynskey, 1995). Chronic conflict between parents and relationship disintegration can directly or indirectly affect youth behaviour.

Parents involved in these stresses may be aggressive, irritable and vulnerable, ready to attack the next person either verbally or physically. Youth may learn to avoid or mistrust this parent, or use them as a role model, reducing the opportunities the young person has to learn socially appropriate behaviour and increasing the possibility that the parent will not respond to their child's antisocial behaviour effectively and may even reject them (Patterson et al, 1989).

Parental rejection consistently relates to delinquency and aggression in youth. Children who do not feel appreciated or loved by their parents may not identify with these early role models and consequently may respond by rebelling against parental authority and consequently society. Social control theory (Hirschi, 1969) offers one model for understanding how children's family relationships may put them at risk for antisocial behaviour. Weak bonds to conventional norms and groups counteract the constraints on deviant behaviour otherwise provided by these norms and groups.

Grace and McLean (1998) cited differences between families of offenders and non-offenders. Their review found that families of offenders are typically characterised by frequent parental conflict, inconsistent, negative parental emotional expression and parenting behaviours, inadequate behaviour monitoring and difficulties with family cohesion and adaptability indicating that family environment is a contributing factor to the aetiology of delinquency. Environmental influences are expected to be important contributors to antisocial propensity, but these environmental influences reflect, in part, the genetic influences on the dimensions of predisposition (i.e., geno-type – environment covariance).

1.2.3 Family Environment

Research implies that there is a high degree of intergenerational transmission of antisocial behaviour (Johnson, et.al., 2004; Farrington, Jolliffe, Loeber, Stouthamer-Loeber & Kalb, 2001; Patterson, et.al., 1989). Poor parenting has been hypothesised to contribute considerably to the intergenerational transmission of aggressive and antisocial tendencies (Johnson et.al, 2004). Support for this hypothesis has been provided by research suggesting that parental history of antisocial behaviour may increase the likelihood of harsh or inconsistent parental disciplinary methods, poor role modelling to children, and tolerance of children's antisocial behaviour (Johnson et. al., 2004; Gorman-Smith et al., 1998). Evidence indicates that a small number of families account for a large proportion of the crime committed in a community (Henggeler, 1991).

This may be due to evidence that implies that people with antisocial behaviours are more likely to have children with partners who also have antisocial histories (Farrington, Barnes & Lambert 1996, cited in Wasserman & Seracini, 2001). Youth who participate in extreme delinquent behaviour have a higher probability than other adolescents of having a biological parent who also exhibits persistent antisocial behaviour. Evidence has also found that families with serious chronic offenders may provide models for deviant behaviour, or at least youth offending behaviour may be modelled/in agreement with the beliefs and values held by the parents (Gorman-Smith et al., 1998; Hawkins,

Laub & Lauritsen, 1998). Criminal behaviour may be normalized within the home, parents may themselves be deviant, or may have attitudes that condone or encourage delinquency in their children These findings are consistent with others that have found a relation between parental criminal history and youth involvement in delinquent and violent offending, and provide further support for an intergenerational transmission of antisocial behaviour (Hawkins, et al., 1998).

Evidence suggests that differing aspects of the familial environment, communication (Clark & Shields, 1997), cohesion (Richmond & Stocker, 2006), parent-child interactions (Dekovic, Janssens, Van As, 2003; Haapasalo, 2001) contribute to the development of delinquent behaviour. However the precise nature of the association between family environment and the development of delinquent behaviour remains questionable (Matherne & Thomas, 2001).

The influence of a common environment for family members may result in similar behaviours being displayed but perhaps manifested in different modes, for example antisocial parents may display a parenting style that encourages aggressive behaviour and family circumstances could promote early aggressivity within children in the family (Patterson et. al., 1989). Clark & Shields (1997) reported that two aspects of family environment consistently reoccur in the literature on delinquency. They describe these aspects as Family Status and Family Type. Family Status refers to the composition of the family, while Family Type focuses on the interactions that occur between family members. However evidence also infers that it is the Family Type that mediates whether or not Family Status has an impact on delinquency. Therefore the types of interactions that occur between family members have more of an impact than the individuals themselves that are in the family.

1.3   Treatment Fidelity

There are numerous treatment interventions available to address externalising behaviour; thus persevering with an intervention that is ineffective is unproductive for both client and therapist. So how do therapists and clients know if a treatment is effective and worth continuing? Treatment fidelity is a measure of intervention efficacy and includes measuring differentiation and adherence. Differentiation focuses on how one therapy type is distinguished from another (Kazdin, 1986), while Adherence concentrates on whether the treatment did/does what it was supposed to do. Adherence is the more frequently measured aspect of treatment fidelity. Adherence fidelity can further be broken down into Content (i.e., was the treatment delivered according to the intervention protocol?) and Process (i.e., was the treatment delivered in the manner in which the content is supposed to be delivered?).

Typically treatment Adherence is measured via either observational (audio/visual recordings) or questionnaire methods, the former capturing molecular level and the latter molar level constructs (Schoenwald, Letourneau & Halliday-Boykins, 2005). Molecular level constructs tend to provide better predictive validity, as they are more sensitive to the contexts that contribute to the interpretation of any specific interpersonal action (Dishion, et al., 1995a). Many therapies measure client adherence to the treatment protocols, but few measure therapist adherence to treatment principles. (Huey, et al., 2000).

1.3.0 Therapist Variables

While it is known that therapist factors influence therapy results, efforts to identify the relevant therapist variables have often been uninformative. The therapist factor that has consistently emerged as a predictor of client outcome is the therapeutic relationship; however personal therapist characteristics and how they use the therapy techniques they have are also thought to contribute to client outcome.

A study by Paivio and associates (2004) reviewed Emotion-focused therapy for adult survivors of child abuse (EFT-AS; N= 37). The researchers looked at a number of therapist variables including adherence to EFT-AS intervention principles, specifically they hypothesised that therapists would differ in terms of adherence to the therapy, competence level and relationship skills. Their results indicated that therapist adherence rates were inversely related to relationship skills and that adherence to intervention principles, in general, was not significantly associated with client engagement and participation in the specific intervention. As novice therapists mastered the skill of applying EFT-AS intervention principles after a brief training programme – one that did not include practise with real clients, the researchers concluded that adherence was stable over the treatment period and was independent from clinician experience with the therapy protocol (Paivio, Holowaty & Hall 2004). Therefore adherence independently contributed to client change, which has implications for therapist training.

Moncher & Prinz (1991) state that treatment fidelity has a number of implications for the internal, external and construct validity and statistical power of treatment outcome research. They suggest that even if significant results are found, but fidelity was not reviewed, then the outcome might be due to an effective treatment, however it might also be due to other unanticipated variables. Conversely if non-significant results are achieved and fidelity is not checked, then the treatment maybe ineffective or not done properly.

Also important for treatment fidelity is therapist understanding and interpretation of the treatment protocols. According to Moncher and Prinz (1991), without adequate training therapist contextual and interpersonal beliefs and variables could adversely affect treatment delivery. Moncher & Prinz (1991) reviewed a total of 359 treatment outcome studies from 1980 – 1988 to establish the extent to which researchers were attending effectively to the issue of treatment fidelity. Their results implied that 55% of the studies were basically ignoring the issue of treatment fidelity (Moncher & Prinz, 1991). They suggest that to address the issue of treatment fidelity, researchers could develop treatment manuals, provide ongoing supervision and feedback, and document treatment processes so that others could reliably replicate findings.

Following the introduction of treatment manuals was the development of therapist adherence measures that consider how closely therapists follow the principles prescribed in the manuals when conducting therapy sessions. Multon, Kivlighan, & Gold (1996) examined changes in counsellors' adherence to treatment principles throughout training and how counsellor interaction styles could be related to adherence. Multon and colleagues (1996) studied change in adherence to Time Limited Dynamic Therapy (TLDP) by novice counsellors (N= 36) through four supervised training sessions. Their results showed that adherence increased linearly across the four training session. They further concluded that if the counsellor increased their adherence to a general psychodynamic interviewing style, then clients were likely to rate the next session as having a higher working alliance level, this implies that therapist adherence to treatment principles and client perception of the working alliance are positively related (Multon, Kivlighan, & Gold, 1996).

With regards to treatment outcome research, many investigators seem to assume that all participants within a particular condition receive the same levels of treatment intensity. However results from two studies reported by Huey and associates (2000), indicate that this may not the case. They report that even when significant clinical oversight and training is provided to therapists, variance in adherence protocols still occurs and affects client outcomes. The authors go on to say that adherence is not a unitary construct and should be evaluated from multiple perspectives and even when it is levels of adherence still varied considerably. This implies that participants held definite ideas regarding the interpretation of adherence (Huey et al., 2000).

Research conducted by Robbins and colleagues (2003) examined the therapeutic alliance to determine whether individual alliances and/or family-level patterns of alliance differentiated

treatment completers from treatment dropouts. They reviewed archive material on the first therapy session of 66 youth and their families, classifying them as either completers or dropouts (Robbins, Turner, Alexander & Perez 2003). Dropouts were defined as those families who had attended less than eight sessions and were deemed by the therapist to have dropped out. The authors concluded that individual levels of alliance failed to predict dropout, but parental alliance moved in the opposite direction from what was expected, with dropouts having statistically higher individual alliances with the therapist than the completers. They further reported that unbalanced alliances between the therapist and family members predicted dropout (Robbins, Turner, Alexander & Perez 2003).

1.3.1 Working Alliance Inventory

Bordin (1979, cited in Horvath & Greenberg, 1989) theorised that a working alliance common to all therapeutic relationships would develop from client-therapist agreement on goals, task and the strong relational bond that occurs. According to Bordin (1979, cited in Horvath & Greenberg, 1989), the working alliance relationship aids the client in accepting and following therapeutic advice. He proposed three distinct components of the working alliance: Tasks, Bonds and Goals.

Tasks are those actions and cognitions in therapy sessions that form the basis of the therapeutic process. Within a highly functional therapeutic relationship individuals should perceive tasks as relevant and effectual, accepting responsibility to perform them. Goals are the intended outcomes of therapy that both the client and therapist have mutually agreed upon and are working towards achieving. While Bond refers to the positive attachment between client and therapist that includes factors such as, trust, confidence, acceptance and commitment of working together to achieve the treatment goals (Bordin, 1979, cited in Horvath & Greenberg, 1989). In fact Huey and colleagues (2000) state that if a therapist tired to affect control of sessions without sufficiently engaging family members then attempts to effect change would probably be unsuccessful perhaps even detrimental.

Horvath and Greenberg (1989) developed the Working Alliance Inventory (WAI) to examine Bordin's hypothesis regarding the working alliance, although they argued that any assessment of the working alliance should be independent of a therapist theoretical perspective. Their report (Horvath & Greenberg, 1989) details the development of the WAI and indicates that the WAI has good reliability. The WAI was developed with both client and therapist versions and is a 36-itemed questionnaire with a 7-point Likert response code, with individual items referring to one of the three subscales: Task, Goal, and Bond.

While it was assumed that all 3 subscales (Task, Goal and Bond) were correlated, but unique in content, Tracy and Kokotovic (1989) wanted to determine if it were possible to measure the unique aspects of the alliance. University counselling centre clients (N=84) and therapists (N=15) completed the WAI after the first psychotherapy session. The authors reported that confirmatory factor analysis supported a two-level factor structure, one that supports a General Alliance structure and another that views the Task, Goal and Bond subscales as correlated, but unique in their content. They developed

the WAI short form (WAI-S) by selecting four items from each subscale with the highest factor loadings. These findings gave initial support for the validity of the WAI-S, as the factor structure was similar to that of the complete WAI.

Busseri & Tyler (2003) examined the interchangability of the WAI with the WAI-S. Using ratings from the first and fourth sessions of psychotherapy meetings between 54 client-therapist dyads the WAI and the WAI-S were directly compared. Their results indicate that there was a high degree of internal consistency for subscale and total scores of the WAI and WAI-S at both measurement points. Providing further support for the use of the shorten form of the WAI to obtain similar ratings as the full WAI.

1.4 Family-Based Therapies that Address Delinquent Behaviour

1.4.0 Functional Family Therapy

Functional Family Therapy (FFT) is a treatment approach based on a family systems approach that addresses disruptive behaviour in adolescents and incorporates interventions from systemic therapy, cognitive therapy, and behavioural therapy. Functional Family Therapy has specific phases of treatment, with each phase having detailed goals and required therapist characteristics and techniques. The early stages of therapy focus on therapist characteristics and interventions that address the family's expectations of therapy as well as identifying motivations for attending treatment. Therapists focus on the positive relational aspects of family interactions in order to affect change. Interventions are individually adapted to the cultural and developmental needs of the family (Robbins et al, 2003).

FFT has been found to be successful in reducing status offences and rates of aggressive behaviour (e.g., fighting; Alexander, Holtzworth-Munroe, & Jameson, 1994 cited in Kashani, Jones, Bumby & Thomas, 1999). However, no well-controlled outcome studies to date have shown that FFT significantly reduces serious antisocial behaviour (e.g., robbery, assault) in youth (Kashani, et al., 1999).

1.4.1 Parent Skills Training

Parent Skills Training (PST) incorporates a number of treatments that focus on Parenting Skills. Parent Behaviour Training (PBT), Behavioural Parent Training (BPT) or Parent Management Training (PMT) all refer to procedures in which parents are trained to alter their child's behaviour in the home and can be used on a number of child and adolescent problem areas (E.g: tantrums, eating disorders, hyperactivity to name a few). The main factor of PST is to focus on enhancing effective parenting and decreasing coercive interactions (Forgatch, Patterson & DeGarmo, 2005). Based on the view that externalising behavioural problems are developed and sustained in the home by coercive behavioural interactions, PST aims to alter these behavioural patterns to more pro-social interactions.

Treatment is conducted primarily with the parents during in office sessions; they then implement procedures at home as needed. The main descriptors of Coercive Behaviour are negative reciprocity, escalation and negative reinforcement these are controlled by using five central parenting skills. Skill encouragement promotes pro social behavioural development through the use of scaffolding techniques and positive reinforcement. Discipline or boundary setting decreases delinquent behaviour through the use of consequences for antisocial behaviour. Monitoring refers to knowing the where, who, what and how aspects of children's movements. While Problem-Solving skills enable families to set effective and fair boundaries, and positive reinforcement and consequences for behaviour. Finally Positive Involvement encourages parents to interact with their children with warmth and affection (Forgatch et al, 2005).

Positive behavioural changes have been evident in clinically significant improvements as evidenced by teacher and parent reports and by school and police records. Therapeutic gains have shown to be evident 1-3 years after treatment and in one study 10-14 years later (Long, Forehand, Wierson & Morgan, 1994). Clinically significant treatment effects have been reported on a wide range of post-treatment and short-term follow up measures (Kazdin & Weisz, 1998). Unfortunately, these treatment gains have been shown to diminish over long-term follow-up (Serketich & Dumas, 1996). More over the generalisation of this approach to adolescents appears limited, as stronger treatment effects have been found for young children exhibiting relatively less severe problems (Frick, 1998 cited in Curtis et al, 2002)

However PST requires parents to understand the major principles underlying the programme in order to implement them at home. Secondly PST requires the therapist to have an excellent understanding of Social Learning principles and the multiple procedures that come from them in order to encourage the parents' use of reinforcement and consequences at home with confidence. And finally the therapist can only encourage and support parents for behaviour they are told about, there may be information that parents do not view as important or simply do not want the therapist to know.

1.4.2 Multidimensional Family Therapy

Multidimensional Family Therapy (MDFT) is phasic and uses a systemic approach in working with youth who have externalising behaviour (eg, antisocial behaviour, substance abuse behaviour). The principles behind MDFT focus on the individual problems of the adolescent as well as looking at parental issues, family relationships and extrafamilial influences. Multidimensional Family Therapy focuses on four interrelated systems within the adolescents' ecology in order to effect change (Hogue, Dauber, Samuolis & Liddle, 2006), individual adolescent, parents and other family members, family interactional patterns and extrafamilial systems of influence (eg peers, school). Therapists work simultaneously in each system responding accordingly to the individual needs of the adolescent and family. Treatment is delivered in the family home, treatment office or community environments, using a three-stage intervention programme. The first phase focusing on engaging with the individual family members involved in treatment, moving on to encouraging the adolescent to become competent across all areas of their life, as well as supporting the parents with parenting skills. The final stage emphasizes sustainability and generalisation of treatment changes to other systems in the adolescents' life.

Multidimensional Family Therapy uses an observational adherence coding process (Hogue et al., 2006), the Therapist Behaviour Rating Scale (TBRS), to monitor treatment fidelity. Multivariate data is collected on treatment implementation, length of sessions, and systems targeted, however observers using the TBRS need to be trained in its use (Hogue et al., 2006).

1.5   Multisystemic Therapy

Multisystemic Therapy is a family oriented treatment programme that has evolved from a combination of General Systems Theory and Bronfenbrenner's (1979, cited in Henggeler, Schoenwald, Borduin, Rowland & Cunningham, 1998) social-ecological model of behaviour functioning. Multisystemic Therapy endeavours to challenge antisocial behaviour by changing key aspects of a youth's social ecology, in ways that promote pro-social behaviour.

1.5.0 Theoretical Framework

Multisystemic Therapy (MST) attempts to address the correlates of delinquency that have been demonstrated to characterise the family, peer and educational settings of delinquent youth (Henggeler, Melton, Smith, Schoenwald & Hanley, 1993). The theory behind MST proposes that behavioural problems are often maintained by problematic transactions within and across multiple systems of the youth's social environment (Huey et al, 2000).

The success of MST has been attributed to certain qualities that differentiate this treatment model from other empirically based treatment approaches, such as addressing the multiple determinants of serious antisocial behaviour, and using a systems approach to working with the youth and their family. (EG Individual, Family, Peer, School and Community factors) and working with the family within the youth's natural ecology.

Family systems perspective views and understands behavioural problems or symptoms as they occur within a social environment. The family is seen as an organised unit with rule-governed systems. Primarily concerned with behavioural outcomes, MST is a practical approach that emphasises alleviating symptomatic behaviour through collaboration with members in the system, not by focusing treatment on the 'problem' child/youth (Hazelrigg, Cooper & Borduin, 1987).

Systems Theory highlights the importance of the whole rather than the parts, with the central point focusing on the family group and the interpersonal relationships within, rather than on the individual client. The social-ecological model depicts the process of human development as a reciprocal interchange between the individual and concentric structures that influence each other. This model emphasises the importance of ecological validity in understanding development and behaviour (Henggler, Schoenwald, Borduin, Rowland & Cunningham, 1998).

Bronfenbrenner (1979, cited in Henggeler et al, 1998) described the links between the microsystems as follows: (a) the mesosystem, which epitomises the extent of congruence between areas of a person's environment. (b) the exosystem or community level refers to the broader community resources, such as recreational and educational resources that impact on families and (c) the most distant section of a person's environment concerns the macrosystem beliefs and values that influence the family, such as attitudes and beliefs towards culture and ethnicity expectations (Snell-Johns, Mendez & Smith, 2004).

1.5.1 How Does MST Work?

Studies indicate that a combination of personal (attribution bias, antisocial attitudes), familial (low warmth, high conflict, authoritarian and/or inconsistent discipline, parental problems), peer (association with deviant peers), educational, (low family-school bonding, academic and/or social issues) and neighbourhood (transience, disorganisation, criminal subculture) factors are correlated with serious antisocial behaviour in youth (Henggeler, 1999). Behavioural issues may be a function of any or all of these factors. The scope of MST treatment covers all of these factors; and is not limited to the youth or family system. Hence the therapy is truly multisystemic, transcending all areas of the youth's development. MST is designed to increase family structure and cohesion and provide caregivers with the skills and resources to monitor and discipline their children effectively.

Multisystemic Therapy does not employ a unique set of intervention techniques; rather intervention strategies are integrated from other pragmatic, empirically proven therapies, including strategic family therapy, structural family therapy and cognitive behavioural therapy (Henggeler & Borduin, 1995).

Multisystemic Caseworkers and the types of interventions they implement are guided by nine core principles (Appendix 2). These nine principles form the basis for all interventions and therapist adherence. Rather than providing specific, session-by-session intervention procedures, the MST principles offer general guidelines that direct case conceptualisation, treatment specification, and prioritisation of interventions. Caseworkers are further guided in case conceptualisation with the use of the MST Analytical Process (Figure Two) otherwise known as the 'Do-Loop' (Henggeler et al,1998).

Consistent with family preservation models of treatment delivery, MST services are often delivered within the family home, at times convenient for the family. Family members are viewed as full partners and collaborators in the treatment process and planning is driven wholly and completely by the family/whanau, with the goals of treatment driven and attained principally by the youth's parents/caregiver. Collaboration such as this ensures that the treatment (overarching) goals are developmental and culturally appropriate to the family's values and beliefs. Completion of MST treatment is defined by these overarching goals identified by the family (Cunningham & Henggeler, 1999).

Overarching goals are designed to remove or diminish the frequency and intensity of referral behaviour and incorporate the desired outcomes of family members and other key participants. Interventions to accomplish these overarching goals are identified and require daily and weekly effort on behalf of the family and therapist. These goals are also readily observable by anyone and can be measured accordingly. Evaluation of these goals must come from multiple perspectives (e.g., caregivers, school teachers, supervisor, MST consultant). The majority of youth referred to MST for serious antisocial behaviour have three or four overarching goals. Clearly expressed, defined goals

developed by family and other key participants create obvious criteria for therapy success and therefore completion. Overarching goals often need to be prioritised and may be added or changed as therapy progresses (Henggeler & Schoenwald, 1998).

Successful closure of an MST family is defined by whether or not the overarching goals developed at the beginning of treatment have been attained and maintained for a period of 3–4 weeks. If only a few of the overarching goals have been reached then the family closes partially successfully, if none of the primary overarching goals are attained then the family closes unsuccessfully. Success is also defined by increased parental monitoring, youth involvement in pro-social activities and positive behaviour change in youth that is sustained over a month.

Figure Two

MST ANALYTICAL PROCESS *– THE 'DO-LOOP'*
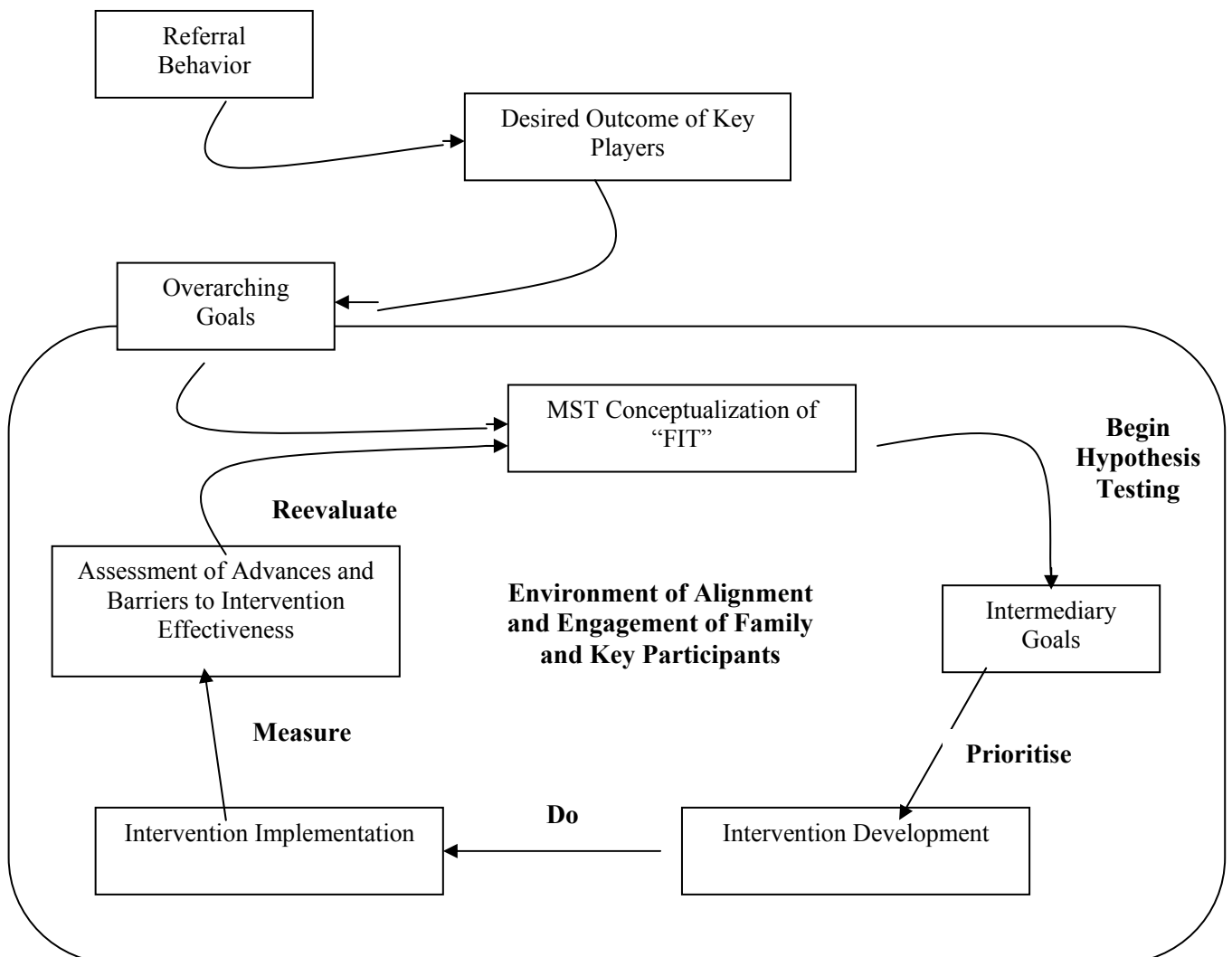
(Henggeler et al., 1998 pg 47)

At the peer level MST therapists focus on increasing the youth's association with pro-social peers, while helping parents disengage youth from deviant peers. The family can do this by encouraging

their youth to participate in pro-social activities such as joining a sports team, or a music/art group. Finding out what the youth is interested in and likes doing is the key to involving them in pro-social activities and therefore meeting pro-social peers who discourage antisocial behaviour.

1.5.2 Therapist Protocols and Training

New MST caseworkers initially attend a weeklong training course that provides overviews of the MST treatment model; the conceptual, theoretical and empirical bases of the approach; and opportunities for practicing developing and implementing evidence based interventions that are consistent with the model. Continued treatment integrity is supported by weekly meetings with an MST-trained clinical supervisor, weekly group telephone consultation with an MST expert consultant, and quarterly booster training on special topics and challenging cases (Schoenwald, Sheidow & Letourneau, 2004).

The therapist is responsible for engaging with the family and with other key stakeholders in the youth's ecology in order to effect positive changes. This is where the "Do Loop" and conceptualisation of the 'Fit' can be used to identify possible barriers to Family Therapist engagement. The Fit can be explained as the therapist's assessment of the youth's behaviour and the factors that contribute directly or indirectly to behavioural problems. By determining how each factor, on its own or in combination impacts on the youth's behaviour the therapist can begin to conceptualise what is occurring for the youth and formulate hypotheses which can then be tested.

Therapists often face considerable barriers in their work that can impede the process of engaging and maintaining families in therapy. Research has also shown that establishing trust with high-risk families can be particularly challenging for therapists. Similarly, the therapist and provider agency are held accountable for achieving change and positive case outcomes.

1.5.3 Therapist Adherence Measures (TAM)

Measuring Therapist's Adherence to the nine principles (TAM Appendix 1) is an important part of the MST Treatment process, as early evidence reliably indicated that adherence to the nine MST principles (Appendix 2) is crucial in order to achieve positive reduction rates in youth offending and incarceration (Schoenwald, Henggeler, Brondino & Rowland, 2000; Henggeler, Pickerel & Brondino, 1999; Henggeler, et al., 1997).

Because treatment adherence is so vital to achieving positive outcomes in MST, two measures have been developed to assess the fidelity of MST for therapists and supervisors (A) the TAM and (B) the Supervisor Adherence Measure. The SAM measures therapist satisfaction with their supervisor's ability to provide crucial feedback; evidence suggests that SAM's are related to therapist adherence (Schoenwald, et al., 2000). Research conducted by Guest and Beulter (1988) concurs that supervisor theoretical orientation influences trainee's subsequent choice of therapy. This indicates that the more

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competent the trainee perceives the supervisor to be, the higher the adherence to the MST principles and therefore the better the outcomes for families.

The TAM questionnaire was developed to test the assumption that conforming to the MST principles would result in positive treatment outcomes (that is reduced rates in youth offending and incarceration) for youth and their family (Henggeler & Borduin, 1992 cited in Huey et al., 2000).

In the original two trials (Henggeler, et al., 1997; Henggeler et al, 1999) used to develop the TAM, it was found that the TAM predicted reductions in youth antisocial behaviour and improvements in family functioning, however studies since have yet to obtain such strong associations (Henggeler, et al., 1999; Huey et al., 2000). Although caregiver (N = 62), therapist (N = 77) and youth (N = 67) measures were obtained during the fourth and eighth weeks of treatment, it was found that caregiver measures were the better predictors of MST outcomes.

Utilising the measures provided by caregivers, therapist and youth Henggeler and associates (1997) used a separate exploratory factor analysis using the maximum likelihood extraction method and nonorthogonal rotations to devise the six sub-factors most related to adherence. The original TAM provided six sub-factors that alleged to pertain to adherence to the nine principles; overall adherence, non-productive settings, therapist/family problem-solving effort, therapist attempts to change interaction, lack of direction, and family-therapist consensus (Henggeler & Borduin, 1992 cited in Huey et al., 2000). Some TAM items were negatively worded in order to ascertain social conformity in answering.

In New Zealand, MST Caseworkers received feedback four times a year at quarterly booster meetings. Feedback is based on Caseworker TAM scores that have been aggregated to include the previous three months of family TAM results. These quarterly booster meetings are designed to focus on clinician development and areas in which caseworkers maybe struggling. By participating in booster sessions, clinicians are constantly improving their skills and abilities to work with difficult families.

Caseworker feedback from the TAM's is vitally important in ensuring positive outcomes for families. Supervisors are able to observe the caseworkers strengths and struggles in applying the MST principles. Information concerning the struggles clinicians are experiencing should enable both the supervisor and clinician to address these, thereby ensuring that the clinician makes positive progress with the family.

1.5.4 MST Efficacy Studies

Considerable attention has been given to the transportability and dissemination of MST in real-world settings. This includes paying close attention to the fidelity of MST when the developers do not provide direct clinical oversight; therefore all licensed MST programmes are required to participate in the quality assurance procedures, providing regular TAM and SAM scores.

A study conducted by Huey and associates (2000) examined whether the effectiveness of MST could be maintained in community mental health settings when experts in MST did not provide significant clinical oversight. Violent or chronic youth offenders and their families (N=130) were randomly assigned to MST or Usual Services (U.S). Usual Services consisted of 6 month probation, seeing a probation officer at least once a month and depending on the nature of the offending youth were often further instructed by the courts to make restitution. Their results suggest that adherence to the MST model resulted in improvements in family functioning which contributed to reductions in antisocial behaviour by youth. But this is tempered by the conclusion that even with significant clinical oversight, there was considerable variation in adherence by therapists, which was associated with differential treatment outcomes for youth (Huey et al., 2000).

Further research conducted by Timmons-Mitchell and colleagues (2006) examined the effectiveness of MST without direct clinical oversight by the developers. Using a randomised study youth (N=93) were either assigned to an MST treatment programme or received treatment as usual (TAU). The results indicate that youth in the TAU condition were 3.2 times more likely than youths in the MST condition to be rearrested. Timmons-Mitchell and associates (2006) reported that adherence by therapists to the MST model were similar to those found in previous real-world settings (Halliday-Boykins, Schoenwald & Letourneau, 2005) and that their hypotheses were only partially supported. Specifically MST treatment resulted in reduced recidivism compared with TAU however while the results were in a similar direction to previous MST studies they were not at the same magnitude. Youth functioning did improve, with those in the MST treatment group scoring better on four of the six measures used.

A review of MST studies by Littell (2005) found that MST had few if any significant effects on measured outcomes, compared with usual services or alternative treatments. She suggests that some of the reasons for this discrepancy could be several potential biases such as publication bias, uncritical analysis, authority and tradition and conflicts of interest.

Henggeler and colleagues (2006) responded to Littell (2005) saying that that her conclusion should be viewed within the context of the broader evidence-based field pertaining to antisocial behaviour in adolescents. The efficacy and effectiveness of MST has been widely researched not only by the developers of MST but by independent researchers as well (Timmons-Mitchell, et al., 2006; Ogden & Halliday-Boykins, 2004; Stanton & Shadish 1997). The authors go on to comment that when the status quo of an industry is challenged, some within the 'old school' view the change as a threat to their profession.

Research conducted on the transportability of MST (Schoenwald, Sheidow, Letourneau & Liao, 2003) examined therapist adherence to MST and the organisational climate in which MST teams operate. Using information provided by 666 youth and their families and 217 therapists from 39 MST teams the authors reported that adherence to MST predicted fewer child behaviour problems and

improvements in child functioning post treatment. They also concluded that the success of MST programmes could be due to the extent in which therapists are able to make clinical decisions that influence treatment implementation and duration.

A randomised trial of substance-abusing and dependant adolescent offenders (N= 118) illustrated that MST completers had decreased drug use immediately post treatment, but these changes were not maintained at 6 month follow up (Henggeler, et al., 1999). Nor did they find statistically significant differences between arrest rates for the two groups. The authors suggest that the modest results may have been due to low therapist adherence to the treatment model (Henggeler, et al., 1999).

Earlier research by Henggeler and colleagues (1997) alluded to the issue of treatment fidelity, specifically when fidelity was not taken into account effects on outcomes were minimal. Their results indicate that while days in incarceration were reduced (47%), re-arrest reductions (26%) were not statistically significant. The researchers suggest that parental ratings of adherence predicted low rates of re-arrest, as did parental ratings of therapist emphasis on intra and extra familial interactions. These findings are consistent with the MST model that serious antisocial behaviour in youth is linked with key aspects of family relations (Henggeler, et al., 1997).

Results from studies conducted on the efficacy of MST appear to indicate that the therapy is more successful then Behavioural Parent training, Individual counselling or Juvenile Probation Services (Henggeler, 1999). For example a randomised trial comparing MST with Individual therapy (IT) in the treatment of serious juvenile offenders (N=200) demonstrated that at a 4 year follow up; arrest rates, other criminal offences and substance related offences had decreased (Borduin Mann, Cone, Henggeler, Fucci, Blaske & Williams, 1995). Even MST dropouts were at lower risk of re-arrest than IT completers. This suggests a dosage effect, in which even a little engagement with the MST programme is better than none at all (Borduin et al, 1995).

The appropriateness of disseminating MST within New Zealand is supported by the results of several independent randomised trials with antisocial youth, indicating that successful results were not diminished by youth ethnicity or age (Ogden & Halliday-Boykins, 2004, Henggeler, et al, 1998). However Curtis and colleagues (2004) state that while existing MST literature suggests that treatment outcomes are not mediated by culture, ethnicity or gender, one cannot automatically assume that these results will replicated within New Zealand.

Specifically as New Zealand Maori appear to be disproportionately represented in criminal statistics. For example evidence suggests that Maori youth are three times more likely to be apprehended, prosecuted and convicted than non-Maori youth. In fact of the 6% of youth currently imprisoned over half are Maori (Dept. of Corrections Census, 2001). This would suggest that cultural and ethnic influences are important considerations when delivering MST treatment.

1.5.5 Attrition Rates

One of the issues with family therapy is attrition rate, especially if families are expected to attend outpatient clinics. Youth who begin attending outpatient mental health clinics drop out for a number of reasons, with the primary caregivers generally playing the most significant part in the decision (Garcia & Weisz, 2002). With dropout rates in family therapy that address child conduct issues typically around 40%-60% (Curtis, Ronan & Borduin, 2004; Garcia & Weisz, 2002; Kazdin, Mazurick & Siegel, 1994b; Gould, Shaffer & Kaplan, 1985) issues affecting dropout need to be addressed. It is also estimated that 50% to 75% of children and youth referred for treatment fail to begin or complete treatment (Kazdin, 1990).

Kazdin and colleagues (1994b) reported that approximately 50% - 75% of children and youth referred for treatment neglect to initiate or finish a sufficient amount of treatment (Kazdin, Mazurick & Siegel, 1994b). This is a concern to family therapists as those who drop out are often those in greatest need of support. Some of the reasons cited by families for missing appointments or for dropping out of treatment is their inability to attend appointments in clinics, familial stress and severity of child externalising problems (Kazdin, Holland & Crowley, 1997, Kazdin et al, 1994b, Prinz & Miller, 1994).

Multisystemic Therapy attends to one of the problems of attrition by having therapists go to the homes of participants at times agreeable to the family. The success of MST in reducing attrition rate may be due to the availability of therapists, the fact that the MST team take responsibility for engaging with the family and treatment focuses on the family's strengths (Henggeler, et al, 1998).

A trial of MST during the late nineties (Henggeler et al, 1998) demonstrated that 98% of youths and their families, randomly assigned to MST completed treatment, compared to 78% of youth and families assigned through usual mental health agencies (Henggeler, 1999).

There are a number of reasons why families dropout of treatment, such as parental stress, degree of youth's antisocial behaviour, adverse parenting practises and parental psychopathology to name a few. The therapist's ability to engage and retain families in treatment has been seen as one of the defining features of success in family therapy (Stanton & Shadish, 1997). In MST the focus in early sessions is on therapist-family engagement, in order to be able to effectively implement interventions that families will use.

1.6   New Zealand Antisocial Youth

1.6.0 Offending Statistics

Youth in New Zealand are described as young people aged between 14 and 16 years inclusive. In a Department of Corrections Census in 2001 6% of inmates were less than 20 years of age. Associated data show that the recidivism rate for this age range is relatively high, with 80% being reconvicted within 2 years (NZ Department of Corrections, 2001). It has been suggested that approximately fewer than 5% of 17 year olds account for the majority of crime committed by youth (McLaren, 2000).

The total number of apprehensions of 14-16 year olds by the police in 2001 was 7% higher than apprehensions for the same age range in 1994. In comparison apprehensions for adult offenders (17 years and older) during the same time period was 4% higher. Most of the youth apprehensions in 2001 were males (82%) and concerned property offending (61% of total youth apprehensions). Nearly half (43%) of the youth apprehended were 16 years old, while 15 year olds accounted for nearly a quarter of cases (24%), 14 year olds accounted for 9% of cases involving young people dealt with in 2001 (NZ Department of Corrections, 2001).

1.6.1 Youth Offending Strategy

The Youth Offending Strategy (YOS) was implemented in 2002 and is a document that is designed to guide Government on where it should focus its efforts in youth justice policy. Relevant to the YOS is the Youth Justice System (YJS), one of the key features of the YJS is its legislative base – Child, Young Persons and their Families Act 1989 (CYPF). Child, Youth and Family (CYFS) have a statutory responsibility under the CYPF Act 1989, to respond to children and youth who are at risk of offending and re-offending. This includes the responsibility for managing and implementing the Family Group Conference (FGC) process and supporting the Youth Court in providing interventions for serious young offenders. Located within this entire focus on Youth Offending is the Reducing Youth Offending Programme.

1.6.2 Reducing Youth Offending Programme (RYOP)

The Reducing Youth Offending Programme (RYOP) has just completed a three-year pilot (phase one), which ran April 2003 – June 2006. It was a joint initiative between Child, Youth and Family Services (CYFS) and The Department of Corrections (DOC), in collaboration with Multisystemic Therapy New Zealand (MSTNZ), with the focus population of the programme being those youth who are at high risk for chronic offending. The main aim of the programme was to reduce the severity and frequency of offending within this population, as one of the primary indicators of future offending is prior offending behaviour. Through the use of MST, RYOP aimed to improve family functioning and encourage the youth to become involved with pro-social activities and peers, while reducing Out-of-

Home placements, such as residential or foster care and reducing the severity and frequency of offending.

The programme was under the general auspices of the DOC, with staff being employed by DOC and offices located within CYFS sites in Auckland and Christchurch. The Programme was developed in response to Governmental and Public concern regarding the level of youth offending and was based on the YOS. The Department of Corrections has now withdrawn from the programme and it is under the auspices of CYFS.

There were two RYOP teams in the Auckland region and one RYOP team in Christchurch. Each team had approximately three full-time therapists and a full time supervisor, as well as access to a MST expert consultant who provided weekly clinical consultation.

1.6.3 Referral to RYOP

Referral to the programme was made by a Social Worker within CYFS or a probation officer from the DOC. A youth was referred to RYOP if they met eligibility criteria and towards the end of the pilot when referrals were low, youth were also eligible if instances of offending behaviour resulted in either a third FGC or a hearing in the Youth Court resulted in the youth being charged and given a six-month supervision order.

In order to be considered for eligibility young people referred had to:

1. Have an identifiable Whanau/family caregiver, who would be able to answer questions about the youths background and performance over the next 6 months

2. Have received (i) a Supervision Order (6 months), (ii) Supervision Order with activity Order (3 months) followed by a Supervision Order (3 months) or (iii) Supervision for 6 months post supervision with Residence Order

3. Have an intellectual and language capacity to answer questions about their background, family functioning and emotions accurately

4. Be willing to participate in a longitudinal study and answer the above questions over an 18 months period

5. Not have sexual offending as the only referral reason

6. Not be at risk for suicide or homicide

7. Have no sign of severe mental illness (psychosis) e.g. hallucinations, apparent thought process disorder

If the youth met the eligibility criteria, usually the programme manager would complete a Youth Risk Screen (YRS) assessment, if the youth had a high score on the YRS, (over 30) they were offered a place on the programme.

1.6.4 Youth Risk Screen (YRS)

The YRS was developed in New Zealand to focus on youth and accesses information concerning prior antisocial behaviour, as well as evidence of early CD/ODD and Attention Deficient Hyperactivity Disorder (ADHD). These three disorders are correlated with future antisocial behaviour and an increased risk of chronic and serious recidivism (Moffitt, 1993). The YRS explores the offending and behavioural history of an adolescent and is able to predict whether the youth is on a path to chronic adult offending.

Referral to the RYOP is done primarily through administration of the YRS, as this differentiates between L.C.P and A-L offenders (Moffit, 1993). The former group are those that contributed to the client population throughout the duration of the RYOP. Questions in the YRS refer to antisocial personality and psychopathic behavioural characteristics that maybe present and could potentially predict violent re-offending. Until the RYOP Evaluation study was conducted (Grace, McLean & Warren 2006), no prospective validation of the YRS had been completed, so the predictive use of the YRS was unknown.

2.0 The Aims and Hypotheses of this Study

The present study focused on families involved in the RYOP, May 2002 – June 2006. The aim was to ascertain whether subscale scores based on TAM results provided by the family at the beginning and at the end of MST treatment would have similar scores as those in earlier studies (Huey et al., 2000; Henggeler et al., 1997) and indicate that satisfactory levels of adherence to the MST model had been achieved. We also planned to examine the relationship of TAM scores with recidivism. If the original TAM subscales were not strongly predictive of recidivism, then we planned to conduct factor analyses to see whether individual differences in NZ families' responses to the TAM might be parsimoniously described by a different set of subscales. If so, we then planned to examine whether these subscales might be predictive of recidivism.

It is further hypothesized that families who engage successfully with MST will have established a therapeutic alliance with their caseworker, and that measurement tools such as the TAM, WAI-S and FRC will highlight this alliance and together be useful in aiding knowledge about youth recidivism in a New Zealand population.

The current research used the TAM developed by Henggeler & Borduin (1992 cited in Henggeler et al., 1997) and re- offending measures developed by researchers from the University of Canterbury and the Centre for Research on Evaluation and Social Assessment (CRESA). As well as an assessment model (FRC) designed by Tolan, Gorman-Smith, Huesman & Zelli (1997), which measures basic family characteristics and risk among diverse ethnic groups, and the WAI-S as developed by Tracey and Kokotovic (1989), to investigate the second part of this research.

3.0 Methods

3.1   Recruitment/Participants

For the first part of the research families involved in the Stage One Pilot of the RYOP between May 2002 and June 2006 answered the TAM once a month as part of their participation in the programme. An adult identified as the primary caregiver was contacted over the telephone within one month and no later than six weeks from the first day of contact by the caseworker. Families were informed that the information given was completely confidential and that their caseworker received generic feedback every three months from all of the families they were working with.

During the time period 237 youth and their families participated in the RYOP, 41.77% (99 youth) either withdrew their consent for further follow up information to be collected, a death occurred in the family, or the first TAM was not collected within 6 weeks of the family commencing treatment, hence this data were not used as part of this study. In total information was available on 139 RYOP clients, with a mean age of 16.92 years ($SD=1.28$) and the majority of youth who participated were male, 88.49% (N=123). Treatment duration ranged from 18 days to 233 days ($M=$ 136.71 days SD = 45.92). The age at which the youth received their first Youth Justice (YJ) intake ranged from 12.06 years to 16.5 years ($M=$ 14.70 years $SD=1.03$).

During the specified time frame 412 TAMs were collected, with $M = 3$, ($SD =.$ 1.23) TAM completions for each family. TAMs included in the first study were looked at from the time of the first visit, and for a 5-month period thereafter. TAMs that fell outside of this were not included in the study. The first TAM collected was specified as Time One (T1), while the final TAM collected, that is a TAM that was collected within 6 weeks of MST treatment closure, was called Time Two (T2).

For the second part of the study, families involved in the RYOP between October 2005 and July 2006 were invited to participate. The primary caregiver was contacted within one month and no later than six weeks after starting the programme. Families/Caregivers were informed that participation in the study was voluntary and they would be asked to complete a questionnaire at intake and after completion of the MST programme (Appendices Three & Four). They were informed that refusal to participate would not impact on treatment receipt. All families/caregivers were advised that the questionnaire was part of a study focusing on family behaviour.

During the specified time period, 34 families were referred to the RYOP, 21 participated in the initial stages of the study including eight who could not be contacted for post-treatment follow-up. Youth ranged in age between 14.7 to 18.6 years ($M = 16.82$, $SD = 1.239$) and 85% were male. 52% identified their main ethnicity as Maori, 19% identified as being Pakeha and the remaining 28% identified as being of Pacific decent.

It should be noted that the researcher worked for MSTNZ as the evaluation data co-ordinator between April 2004 and August 2006, therefore access to and knowledge of the families is through this environment. Part of the researcher's job involved delivering the Therapist Adherence Measure (TAM) once a month to each family involved with the programme.

3.2   Procedure

Families involved in the stage one pilot of the RYOP answered the 26-item TAM (Appendix One) once a month over the telephone while working with their caseworker. This was done as part of the MST process in monitoring therapist adherence and was administered within the first 4 weeks of family participation; administration of the TAM took approximately 10 minutes. Quality assurance procedures advise that the first TAM should be done within 3 weeks of the family starting on an MST programme, however due to a number of issues this was not always possible. Caseworkers were not always prompt in sending intake forms to the Evaluation Co-ordinator, the Co-ordinator had trouble contacting families or caseworkers themselves had trouble contacting families and hence engagement may not have occurred during the first 3 weeks.

When evaluating TAM questions, the primary caregiver was requested to refer to the previous 2/3 meetings with their caseworker. Answers to the TAM were entered onto a secure internet website, which only the researcher and her supervisor at MSTNZ had access to. Administration of the TAM once a month resulted in information concerning the movement of adherence ratings across families and stage of treatment, for the purposes of this study only the first and final TAM's were looked at.

For the second part of the study the researcher informed each family of the research when contacted to do the first TAM and asked them if they would like to take part. The majority of families wished to answer the questions at the same time as completing the TAM. For those that indicated a desire to participate but were not able to complete the questions at the same time as the TAM, a time was arranged for the researcher to call back and ask them the questions. Families who indicated a desire to participate were then sent an information pack containing a consent form, an information sheet detailing the process of the research and a reward voucher of their choice either a $15 petrol or movie or grocery (Appendix Five).

The study was reviewed and approved by the University of Canterbury Ethics Committee, (Appendix Six), the Department of Corrections (Appendix Eight) and Child, Youth and Family Services, in particular the Research Access Committee (Appendix Nine). The Family Characteristics (FRC) questionnaire (Appendix Four) was administered to the primary caregiver, when contacted to do the first and final TAM's. This was to ascertain if any changes had occurred between pre and post treatment.

Families answered the FRC questionnaire over the telephone, which took no longer than 15 minutes. As many caregivers choose to complete the FRC simultaneously with the TAM, it took approximately 25 minutes to complete both.

3.3   Measures

The first part of the study utilised the TAM as designed and developed by Henggeler and Bordin (1992- as cited in Huey, 2000).

3.3.0 RYOP Evaluation Study

The Evaluation research on phase one of the RYOP was carried out by the University of Canterbury and CRESA. The purpose of the Evaluation Study was to answer whether phase one of the RYOP had met its goal of reducing re-offending. In order to do this the researchers developed three statistical models to predict survival that is how long after cessation of MST treatment did the youth 'survive' before being charged for a new offense.

One model (XBetaM1) was developed by using archival data on 4307 youth given Youth Justice (YJ) intakes in 2002 factors were generated from the CYFS database (CYRAS) to predict future YJ intakes.

Two models (XBetaM2, XBetaM3) were developed using further information collated from the Police database (NIA) on a sample of 500 from the above group. One model predicted future prosecutions for any offence (M2), and another (M3) predicted prosecutions for serious offences. Results indicated that these three models were able to accurately predict offending of the youth included in the development of the models, as well as another 500 youth drawn from the archival group (Grace, McLean & Warren 2006).

Several considerations were balanced in considering measures for the second part of the current research. Importantly in terms of clinical considerations, assessment procedures aimed to (a) avoid impacting on the therapeutic relationship and (b) minimise stressful demands on caregivers. Accordingly, the measures chosen had high face validity, were brief, easily understood, and able to be administered by phone. In addition, the measures needed to be reliable, valid and suitable for evaluating change in the areas relevant to the treatment goals of MST: (a) youth behaviour and adjustment, (b) family relations including discipline and parent-youth relationships, (c) parental monitoring.

In order to meet these requirements, the second part of the study comprised four measures that were administered to each parent at the beginning and end of MST treatment (a) Youth Behaviour Rating Scale (YBS), (b) Therapist Adherence Measure – (TAM) and (c) the Working Alliance Inventory – Short form (WAI – S) and (d) the Family Relationship Characteristics (FRC).

The YBS is an eight-itemed questionnaire that focuses on a youth's behaviour and the families' situation the caregiver is most concerned about at that time. Ratings are on a 5-point Likert scale

from *Extremely Concerned* (1) to *Not Concerned at All* (5). Included in this is the two-itemed Parental Supervision Index (PSI; Jang & Smith, 1997) adapted to use as a self-reported rating of parental monitoring. Originally designed for administration to youth, the items were reworded for use with parents (Appendix Three) Rating for both items were made on a 5-point Likert scale ranging from *no* (1) to *all the time* (5).

Tolan and colleagues (1997) designed a questionnaire that accessed recognized constructs purported to contribute to basic family behaviour (FRC). These constructs include cohesion, beliefs about family, deviant beliefs, organisation, support and communication.

Cohesion describes the level of attachment and emotional closeness between family members. Depicted on a continuum, at one extreme are families with low cohesion who have highly independent members, at the other extreme families with high cohesion are said to be enmeshed and unable to self differentiate (Matherne & Thomas, 2001).

Beliefs signify the shared family values and the influence of family members on interactions. This includes deviant beliefs and the consequences attached to deviant behaviour. Organisation refers to the family structure and hierarchy; that is how many people are in the family and who makes the rules. Support is related to cohesion and how valued each member of the family feels they are. Finally communication describes how well each member of the family is able to convey their ideas within the family.

In the original study conducted by Tolan and associates (1997) both the primary caregiver and the youth were interviewed in person and answered the questions.

T-tests were conducted on all five measures to ascertain change from the beginning of treatment to the end of MST treatment and correlations were computed to identify relevant relationships between constructs.

4.0 Statistical Analyses

The major focus of this study was to examine whether the TAM was able to predict recidivism for RYOP participants. The research hypothesis was that aggregating the first and the final TAM scores should provide information concerning prediction of recidivism. Data were analysed using SPSS. T-tests were computed to ascertain if there was any change between the first TAM and the final TAM completed by the families. Bivariate Correlations were computed to see whether or not any of the individual TAM items were significantly related to recidivism. The secondary aim of this study was to examine whether answers to the YBS, PSI, FRC and WAI-S could predict recidivism, in addition to any predictive validity provided by the TAM.

5.0 Results

5.1 Therapist Adherence Measures

The TAM (Appendix One) is a 26-item instrument that is used to identify therapist adherence to the nine core principles of MST (Appendix Two). These 26 items are used to generate six subscale measures, according to a proprietary algorithm developed by MST Services Incorporated, that are designed to indicate adherence to the MST model and are supposed to relate to outcomes such as re-offending, out-of-home stays and attendance at school. Descriptive statistics, t-tests, correlations and factor analysis were computed to ascertain what the absolute values of Time 1 (T1) and Time 2 (T2) measures within the RYOP participants say about adherence to the Nine MST Principles.

Our first question was whether significant treatment changes occurred for the TAM subscales over the course of MST treatment. Dependent t-tests were conducted to see if there was a statistical difference between the TAM subscales obtained at T1 and T2. Table 1 shows the results of this analysis.

Table 1

TAM Subscale	Time One		Time Two		t	p
	M	**(SD)**	**M**	**(SD)**		
Adherence	-0.71	(0.98)	-0.63	(1.11)	-0.73	0.47
Non-productive	-0.44	(0.69)	-0.45	(0.68)	0.12	0.89
T-F problem solving	0.15	(1.10)	0.16	(1.15)	-0.16	0.87
Attempts to change	-1.09	(1.04)	-1.07	(0.95)	-0.18	0.85
Lack of direction	-0.33	(0.89)	-0.71	(0.97)	-2.39	0.01[**]
T-F consensus	-0.06	(1.01)	-0.16	(1.08)	0.74	0.45

** Correlation is significant at the 0.01 level

As shown in Table 1, there was no significant change in subscales from the first TAM to the last TAM except for the subscale Lack of Direction, which decreased from T1 to T2 This suggests that overall, caregivers perceived an increase in the Lack of Direction and were unsure as to the direction treatment was heading in and what their caseworkers were trying to achieve.

The next question was whether the original TAM subscales could be used to predict re-offending. To address this, correlations were computed between the original subscales and re-offending as categorised by the RYOP Evaluation report (Grace, McLean & Warren, 2006). Table two shows the correlations of the original subscales with the measures of recidivism developed for the RYOP evaluation report (Grace, McLean & Warren, 2006).

Table 2

		Adherence	Non productive Sessions	T-F problem solving efforts	Attempts to change interactions	Lack of direction	T-F consensus
Adherence	Pearson Correlation N						
Non productive Sessions	Pearson Correlation N	-.255** 119					
T-F problem solving efforts	Pearson Correlation N	.500** 119	-.398**				
Attempts to change interactions	Pearson Correlation N	.515** 119	.156 119	.030 119			
Lack of direction	Pearson Correlation N	-.078 119	-.080 119	-.318** 119	.041 119		
T-F consensus	Pearson Correlation N	-.005 119	-.019 119	-.073 119	-.090 119	.143 119	
YJ Post or Convicted	Pearson Correlation N	-.045 119	.087 119	-.044 119	-.036 119	-.011 119	-.021 119
Convicted Serious?	Pearson Correlation N	-.099 119	.137 119	.066 119	.002 119	-.075 119	-.041 119
YRS	Pearson Correlation N	-.022 118	.254** 118	-.196* 118	.025 118	.115 118	.049 118

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Table Two shows the results of the T2 TAM subscales correlated with the measures of recidivism. Adherence at T2 was significantly correlated with the Non-Productive Sessions, Therapist-Family Problem Solving Efforts and Attempts to Change Interactions subscales. Non-Productive Sessions were highly correlated with Therapist-Family Problem Solving Efforts and the YRS. The Therapist-Family Problem Solving Efforts subscale was also significantly correlated with the Lack of Direction subscale and with the YRS.

These results suggest that families that respond with high scores on the Adherence subscales are likely to respond with high scores on Therapist-Family Problem Solving Efforts and Attempts to Change Interactions subscales and low scores on the Non-Productive Sessions; all these correlations are in the expected directions. Families that have low scores on the Non-Productive Sessions subscales will probably respond with low scores on the Therapist-Family Problem Solving Efforts subscale, but high scores on the YRS, again these correlations are in the expected directions. Finally families that reply with high scores on the Therapist-Family Problem Solving Efforts subscale will probably respond with low scores on the Lack of Direction subscale and low scores on the YRS, these correlations were also in the expected directions.

A series of analyses with individual TAM items were conducted to see whether any of these showed significant changes or were predictive of recidivism. T-tests for dependent means were conducted on the individual TAM items to ascertain if there was any significant change in answers from T1 to T2, these are shown in Table Three.

Table 3

TAM Item	First TAM		Final TAM		*t*	*p*
	M	**SD**	**M**	**SD**		
TAM 1	3.83	1.22	3.33	1.41	3.12	0.00**
TAM 2	4.11	0.95	4.18	1.01	-0.63	0.52
TAM 3	4.35	0.83	4.17	0.98	1.79	0.07
TAM 4	4.26	0.92	4.48	0.83	-2.31	0.02*
TAM 5	3.75	1.20	3.89	1.15	-0.88	0.37
TAM 6	3.04	1.45	3.26	1.48	-1.39	0.16
TAM 7	3.84	1.20	3.79	1.12	0.38	0.69
TAM 8	2.30	1.39	2.34	1.37	-0.32	0.74
TAM 9	1.81	1.34	1.80	1.32	0.06	0.94
TAM 10	4.56	0.74	4.55	0.66	0.10	0.91
TAM 11	3.77	1.19	3.82	1.30	-0.35	0.72
TAM 12	4.01	1.10	3.89	1.16	1	0.31
TAM 13	3.28	1.51	3.38	1.40	-0.59	0.55
TAM 14	2.92	1.53	3.47	1.45	-3.27	0.00**
TAM 15	4.34	0.99	4.29	1.02	0.43	0.66
TAM 16	4.39	1.07	4.31	1.20	0.61	0.54
TAM 17	4.62	0.88	4.59	0.92	0.25	0.80
TAM 18	2.54	1.30	3.11	1.30	-3.70	0.00**
TAM 19	4.79	0.67	4.66	0.77	1.87	0.06
TAM 20	4.40	1.10	4.46	1.10	-0.43	0.66
TAM 21	4.01	1.07	4.17	0.95	-1.20	0.22

TAM 22	3.69	1.32	4.01	1.12	-2.29	0.02*
TAM 23	4.00	1.12	3.95	1.27	0.36	0.71
TAM 24	3.26	1.50	2.98	1.42	1.70	0.09
TAM 25	3.81	1.14	3.97	1.14	-1.26	0.21
TAM 26	4.57	0.88	4.70	0.58	-1.37	0.17

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

TAM's 15, 16, 17, 19, 20 and 26 were reversed scored so that higher scores on all questions were indicative of positive answers. As shown in Table Three, items, 1,4,14,18, and 22 showed statistically significant change in the expected directions; that is from the beginning to the end of treatment the responses to these items usually increased. However for item 1 the answers decreased, perhaps this is due to the meetings not being as "lively and full on" as they were in the beginning as both the family and therapist are aware that treatment is coming to a close. As treatment draws to a close, meetings occur less often and are smaller in duration. This is because the therapist withdraws from the family as they no longer need such intensive support.

Tables four and five depict correlations of the TAM with itself at two different time periods

Table 4

		TAM1	TAM2	TAM3	TAM4	TAM5	TAM6	TAM7	TAM8	TAM9	TAM10	TAM11	TAM12	TAM13	TAM14	TAM15
TAM1	Pearson Correlation	1														
TAM2	Pearson Correlation	.399**	1													
TAM3	Pearson Correlation	.311**	.574**	1												
TAM4	Pearson Correlation	.233**	.389**	.364**	1											
TAM5	Pearson Correlation	.303**	.204*	.213*	.457**	1										
TAM6	Pearson Correlation	.142	.116	.130	.268**	.432**	1									
TAM7	Pearson Correlation	.274**	.360**	.410**	.403**	.404**	.164	1								
TAM8	Pearson Correlation	.235**	.191*	.169*	.219**	.275**	.418**	.128	1							
TAM9	Pearson Correlation	.230**	.107	.025	.175*	.161	.334**	.041	.384**	1						
TAM10	Pearson Correlation	.214*	.276**	.349**	.278**	.165	.228**	.261**	.072	-.002	1					
TAM11	Pearson Correlation	.227**	.359**	.529**	.347**	.303**	.268**	.403**	.219**	.244**	.229**	1				
TAM12	Pearson Correlation	.268**	.466**	.460**	.404**	.291**	.212*	.361**	.187*	.211*	.327**	.513**	1			
TAM13	Pearson Correlation	.235**	.222**	.163	.276**	.487**	.379**	.315**	.385**	.414**	.100	.348**	.265**	1		
TAM14	Pearson Correlation	.255**	.253**	.174*	.240**	.423**	.424**	.261**	.412**	.317**	.078	.364**	.193*	.777**	1	
TAM15	Pearson Correlation	.116	.128	.226**	.211*	.321**	.047	.224**	-.018	-.142	.180*	.111	.088	.177	.143	1
TAM16	Pearson Correlation	.196*	.253**	.394**	.211*	.321**	.177*	.267**	-.017	.121	.190*	.425**	.383**	.266**	.234**	.255**
TAM17	Pearson Correlation	.087	.232**	.286**	.174*	.054	.002	.324**	-.087	-.113	.192*	.189*	.254**	.072	.082	.211*
TAM18	Pearson Correlation	.054	.084	.017	.118	.243**	.405**	.191*	.214*	.180*	.039	.186*	.137	.215*	.243**	-.034
TAM19	Pearson Correlation	.332**	.128	.465**	.156	.276**	.079	.305**	.005	-.145	.279**	.192*	.097	.123	.122	.400**
TAM20	Pearson Correlation	.186*	.007	.217*	.139	.281**	.217*	.104	.074	.054	.171*	.148	.127	.146	.158	.182*
TAM21	Pearson Correlation	.249**	.368**	.303*	.383**	.372**	.085	.381**	.169*	.151	.242**	.302**	.431**	.358**	.277**	.077
TAM22	Pearson Correlation	.274**	.390**	.513**	.477**	.464**	.411**	.523**	.269**	.282**	.327**	.542**	.482**	.474**	.455**	.137
TAM23	Pearson Correlation	.064	.144	.149	.219**	.191*	.250**	.158	.342**	.119	.183*	.159	.146	.305**	.245**	.157
TAM24	Pearson Correlation	.251**	.132	.119	.375**	.381**	.490**	.219**	.383**	.358**	.190*	.282**	.183*	.486**	.495**	.053
TAM25	Pearson Correlation	.271**	.321**	.445**	.364**	.397**	.287**	.387**	.190*	.197*	.237**	.660**	.504**	.280**	.287**	.106
TAM26	Pearson Correlation	.117	.078	.134	.074	.169*	-.062	.081	-.144	-.324**	.134	.033	.058	.024	.010	.385**

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)
NB TAM's 15,16,17,19,29 & 26 are reverse scored

Table 4 continued

		TAM16	TAM17	TAM18	TAM19	TAM20	TAM21	TAM22	TAM23	TAM24	TAM25	TAM26
TAM1	Pearson Correlation											
TAM2	Pearson Correlation											
TAM3	Pearson Correlation											
TAM4	Pearson Correlation											
TAM5	Pearson Correlation											
TAM6	Pearson Correlation											
TAM7	Pearson Correlation											
TAM8	Pearson Correlation											
TAM9	Pearson Correlation											
TAM10	Pearson Correlation											
TAM11	Pearson Correlation											
TAM12	Pearson Correlation											
TAM13	Pearson Correlation											
TAM14	Pearson Correlation											
TAM15	Pearson Correlation											
TAM16	Pearson Correlation	1										
TAM17	Pearson Correlation	.250**	1									
TAM18	Pearson Correlation	.035	-.058	1								
TAM19	Pearson Correlation	.228**	.140	.035	1							
TAM20	Pearson Correlation	.280**	.226**	.091	.229**	1						
TAM21	Pearson Correlation	.301**	.098	.027	.052	.118	1					
TAM22	Pearson Correlation	.351**	.279**	.253**	.156	.279**	.478**	1				
TAM23	Pearson Correlation	.040	-.056	.142	.197*	.109	.132	.192*	1			
TAM24	Pearson Correlation	.151	.032	.249**	.063	.124	.206*	.429**	.285**	1		
TAM25	Pearson Correlation	.340**	.130	.114	.117	.206*	.338**	.565**	.116	.300**	1	
TAM26	Pearson Correlation	.105	.121	-.149	.304**	.132	.079	-.047	.104	-.040	.213*	1

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

Table 5

		TAM1	TAM2	TAM3	TAM4	TAM5	TAM6	TAM7	TAM8	TAM9	TAM10	TAM11	TAM12	TAM13	TAM14	TAM15
TAM1	Pearson Correlation															
TAM2	Pearson Correlation	.406**	1													
TAM3	Pearson Correlation	.310**	.673**	1												
TAM4	Pearson Correlation	.103	.308**	.383**	1											
TAM5	Pearson Correlation	.202*	.535**	.439*	.297**	1										
TAM6	Pearson Correlation	.225*	.195*	.197*	.244*	.464**	1									
TAM7	Pearson Correlation	.209**	.488**	.573**	.283**	.376**	.327**	1								
TAM8	Pearson Correlation	-.009	.094	.034	-.013	.233*	.291**	-.004	1							
TAM9	Pearson Correlation	.029	.129	.094	.166	.153	.252*	.138	.345**	1						
TAM10	Pearson Correlation	.168*	.354**	.254**	.198*	.281**	.149	.309**	-.074	.056	1					
TAM11	Pearson Correlation	.380**	.569**	.526**	.158	.487**	.368**	.515**	.023	.275**	.280**	1				
TAM12	Pearson Correlation	.236**	.382**	.428**	.225**	.284**	.341*	.479**	.024	.114	.216*	.625**	1			
TAM13	Pearson Correlation	.245**	.340**	.368**	.237*	.369**	.355**	.379**	.233*	.236*	.197*	.415**	.253**	1		
TAM14	Pearson Correlation	.194*	.338**	.304**	.187	.358**	.301**	.372**	.215*	.293**	.171	.456**	.355**	.823**	1	
TAM15	Pearson Correlation	-.040	-.071	.027	.062	-.081	-.128	-.042	-.177	-.095	.163	-.042	.150	-.032	.018	1
TAM16	Pearson Correlation	.186	.409**	.516**	.121	.341**	.185	.395**	-.048	.088	.174	.439**	.241*	.309**	.251*	.045
TAM17	Pearson Correlation	.134	.499**	.457**	.296**	.180	-.036	.184	-.049	-.114	.147	.273**	.169	.063	.036	.054
TAM18	Pearson Correlation	.000	.169	.068	.055	.243*	.269**	.191	.158	.105	.219*	.070	.067	.077	.033	.018
TAM19	Pearson Correlation	.110	.253**	.348**	-.007	.213*	.025	.170	-.001	-.054	.149	.185	.179	.011	.036	.247*
TAM20	Pearson Correlation	.176	.218*	.427**	.165	.185	.074	.179	.200*	.096	.125	.192	.085	.184	.183	-.034
TAM21	Pearson Correlation	.211*	.613**	.562**	.138	.507**	.182	.363**	.110	.183	.247*	.503**	.326**	.328**	.342**	.008
TAM22	Pearson Correlation	.192	.509**	.482**	.207*	.574**	.372**	.436**	.015	.147	.350**	.513**	.413**	.408**	.400**	-.013
TAM23	Pearson Correlation	.194*	.326**	.359**	-.005	.257**	.246*	.309**	.200*	.105	.124	.207**	.269**	.252**	.230**	-.072
TAM24	Pearson Correlation	.364**	.301**	.248*	.140	.160	.268**	.329**	.279**	.275**	.218*	.288**	.295**	.440**	.469**	-.063
TAM25	Pearson Correlation	.291**	.427**	.545**	.220**	.444**	.341**	.477**	.025	.178	.214*	.738**	.463**	.373**	.392**	-.068
TAM26	Pearson Correlation	.117	.156	.140	.011	.142	.055	.072	.139	-.174	-.010	.201*	.169	-.051	.015	-.021

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Table 5 continued

		TAM16	TAM17	TAM18	TAM19	TAM20	TAM21	TAM22	TAM23	TAM24	TAM25	TAM26
TAM1	Pearson Correlation											
TAM2	Pearson Correlation											
TAM3	Pearson Correlation											
TAM4	Pearson Correlation											
TAM5	Pearson Correlation											
TAM6	Pearson Correlation											
TAM7	Pearson Correlation											
TAM8	Pearson Correlation											
TAM9	Pearson Correlation											
TAM10	Pearson Correlation											
TAM11	Pearson Correlation											
TAM12	Pearson Correlation											
TAM13	Pearson Correlation											
TAM14	Pearson Correlation											
TAM15	Pearson Correlation											
TAM16	Pearson Correlation	1										
TAM17	Pearson Correlation	.300**	1									
TAM18	Pearson Correlation	.052	-.001	1								
TAM19	Pearson Correlation	.238*	.277**	.205*	1							
TAM20	Pearson Correlation	.257**	.159	.118	.284**	1						
TAM21	Pearson Correlation	.276**	.304**	.213*	.252*	.191	1					
TAM22	Pearson Correlation	.442**	.139	.132	.187	.087	.598**	1				
TAM23	Pearson Correlation	.228*	.033	.134	.113	.044	.242*	.329**	1			
TAM24	Pearson Correlation	.101	.069	.150	-.095	.136	.212*	.275**	.309**	1		
TAM25	Pearson Correlation	.413**	.193	.075	.189	.173	.482**	.548**	.269**	.260**	1	
TAM26	Pearson Correlation	.115	.140	.058	.240*	.120	.144	.068	.099	-.042	.309*	1

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Overall the correlations in Tables 4 and 5 indicate that individual TAM items relating to the Adherence, Therapist Attempts to Change Interactions, Therapist-Family Problem Solving Effort and Family-Therapist Consensus subscales were significantly positively correlated with each other. These same questions were also likely to be significantly negatively correlated with the questions addressing the Lack of Direction and Non-Productive Sessions subscales. Conversely the individual TAM items that addressed the Lack of Direction and Non-Productive Session subscales were more likely to be significantly positively correlated with each other.

Six of the individual TAM items were correlated with the measures of recidivism and risk level. TAM item 15 was significantly correlated with the YRS at both T1 and T2. The YRS was also significantly correlated with item 16 (T1), item 20 (T1) and item 4 (T2), indicating that these individual TAM are related to the YRS. The recidivism measure Convicted/Serious concerns the length of time post MST treatment before a youth is charged or charged with a new serious offence. Three individual TAM items were related to this measure, 12 (T1), item 16 (T1), item 25 (T1) and item 26 (T2). These correlations are in the expected directions. As Table 5 shows at T2 items 20 and 26 were correlated with the recidivism measure of YJ Post or Convicted, which relates to the length of time post MST treatment before a youth was given either a new YJ notice or charged with a new offence.

These results suggest that the individual TAM items are related to important outcomes such as recidivism. In an attempt to determine whether these items might be described more parsimoniously in term of a limited number of dimensions or constructs, we conducted a serious of exploratory factor analyses. The goal was to determine whether the individual differences exhibited by the NZ families might be described in a smaller number of factors or dimensions, which might be different from the six subscales provided by MST for use with the TAM.

5.1.1 Factor Analysis

To investigate the structure of individual differences in TAM responding a series of exploratory factor analyses were conducted. The aim was to determine if a set of subscales (factors), could account for a substantial amount of the variance in individual TAM T1 items. Of interest was whether the resulting subscales would be related to the original TAM subscales. An exploratory principal components analysis with an orthogonal varimax rotation was conducted with T1 ratings only of the 26 TAM items as the dependent variables. Scree plots (Figure 3) were generated and examined based on three, four and five factor solutions, and the three-factor solution was selected after examining the scree plots. The three factors accounted for 45.20% of the variance in total.

Figure 3

**Three Factor Analysis
Scree Plot**
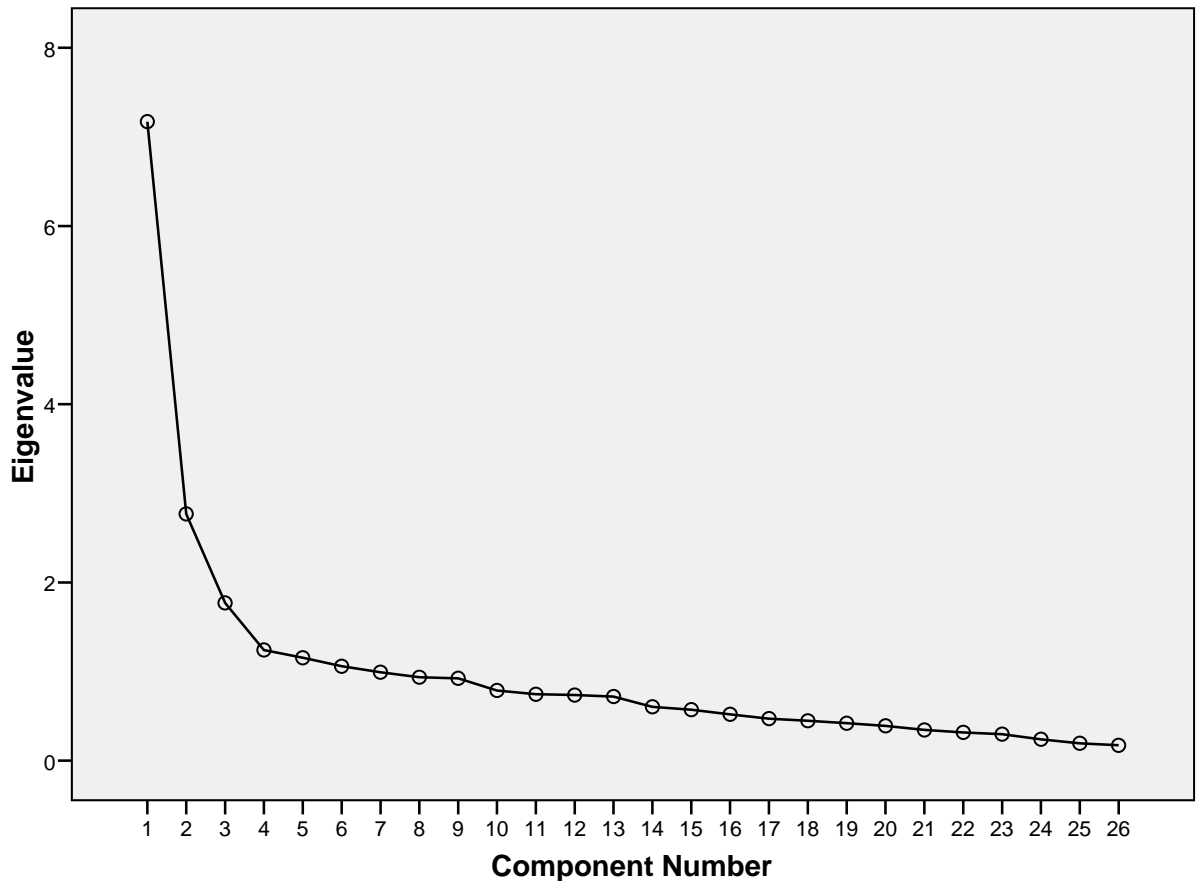
The principal-components analysis indicated that the first component yielded an eigenvalue of 7.20, which explained 27.70% of the variance in the TAM items (Again TAM items 15,16,17,19,20 & 26 were reverse scored). A second component yielded an eigenvalue of 2.77 (10.68% of the variance), and a third component had an eigenvalue of 1.77 (6.82% of the variance). Based on the eigenvalues, a varimax rotation was performed with three orthogonal dimensions. Eight variables had component loadings greater than 0.70, whereas six other variables had loadings greater than 0.60.

Table Six shows the factor loadings generated using the 26 individual TAM items. Values of .30 or greater were used to determine the amount of variance each individual item explained for the factor. The number of items that loaded on to each factor for each subscale were then summed and used to give tentative labels for each factor.

The majority of individual items that loaded on to Factor One were related to the Adherence subscale, while items that loaded on to Factor Two tended to be concerned with Therapist related skills. The majority of Factor Three items were related to the Non Productive Sessions and Lack of

Direction subscales. Due to these loadings it was tentatively suggested that Factor One represents Adherence to the MST principles, Factor Two may represent the Therapeutic Collaboration between the family and their therapist. The Third Factor maybe indicative of the family's uncertainty in regards to Treatment Direction.

Table 6

	Component		
	1	**2**	**3**
TAM 1	.410	.226	.187
TAM 2	.688	.050	.001
TAM 3	.741	-.012	.247
TAM 4	.545	.300	.136
TAM 5	.310	.553	.376
TAM 6	.122	.708	.052
TAM 7	.589	.181	.230
TAM 8	.117	.646	-.126
TAM 9	.171	.555	-.421
TAM 10	.426	.060	.271
TAM 11	.694	.259	-.009
TAM 12	.753	.119	-.064
TAM 13	.246	.730	.090
TAM 14	.210	.726	.108
TAM 15	.122	.046	.724
TAM 16	.520	.092	.233
TAM 17	.426	-.174	.238
TAM 18	.025	.496	-.070
TAM 19	.199	.047	.705
TAM 20	.158	.203	.395
TAM 21	.579	.189	-.006
TAM 22	.684	.437	.038
TAM 23	.035	.449	.257
TAM 24	.186	.708	.030
TAM 25	.670	.238	.053
TAM 26	.061	-.141	.673

Direction subscales. Due to these loadings it was tentatively suggested that Factor One represents Adherence to the MST principles, Factor Two may represent the Therapeutic Collaboration

Table 7

		Factor 1	Factor 2	Factor 3	YJ Post or Convicted	YRS	Xbeta M4	Convicted/Serious?
Factor 1	Pearson Correlation							
Factor 2	Pearson Correlation	.578**	1					
Factor 3	Pearson Correlation	-.177	.160	1				
YJ Post or Convicted	Pearson Correlation	-.115	-.048	-.010	1			
YRS	Pearson Correlation	-.081	-.046	.081	.057	1	1	
XbetaM4	Pearson Correlation	.076	.016	.000	.126	.162		1
Convicted Serious?	Pearson Correlation	-.214*	-.069	-.078	.445**	.116	.071	

** Correlation is at the 0.01 level
*Correlation is at the 0.05 level

As Table Seven (N=139) depicts, Factor one and two are highly correlated and Factor one is significantly correlated with Convicted/Serious. These correlations suggest that families who have high loadings on factor one have youth who are less likely to be charged with a new serious offence.

To test whether the TAM factor scores provide significant additional predictive validity for recidivism, we computed partial correlations between these factor scores, re-offending, the YRS and the XBeta Models, controlling for the YRS and the XBeta models. Although none of the Factors were significantly correlated with Convicted/Serious, Factor 1 was very close to significance with a correlation of r = .182 *p* = .052, n = 113, indicating that this Factor may provide independent information concerning re-offending in a New Zealand youth cohort. Perhaps with a larger sample size this figure may have been significant. In any case, the results suggest that overall, the TAM scores – both the original subscales and those derived from the factor analysis – are not strongly related to recidivism.

Table Eight depicts correlations between the original subscale factors from T1 with the three factors from the current analysis. As Table Eight indicates, Factors One and Two are highly correlated with the original six subscales, indicating that these new factors are measuring similar constructs. Factor Three was strongly and positively associated with Non-productive Sessions and Therapist Attempts to Change Interactions. These correlations were expected to be positive, because the factor scores and TAM subscales are based on the same 26 items.

Table 8

		Adherence	Non productive sessions	Therapist-Family problem solving	Attempts to change interactions	Lack of Direction	Family-Therapist Consensus	Factor 1	Factor 2	Factor 3
Adherence	Pearson Correlation	1								
	N	138								
Non productive sessions	Pearson Correlation	-.184*	1							
	N	138	138							
Therapist-Family problem solving	Pearson Correlation	.437**	-.298**	1						
	N	138	138	138						
Attempts to change interactions	Pearson Correlation	.667**	.174*	.080	1					
	N	138	138	138	138					
Lack of Direction	Pearson Correlation	.031	-.172*	-.202*	.032	1				
	N	138	138	138	138	138				
Family-Therapist Consensus	Pearson Correlation	.156	-.144	.098	.134	.004	1			
	N	138	138	138	138	138	138			
Factor 1	Pearson Correlation	.821**	-.272**	.747**	.400**	-.119	.338**	1		
	N	138	138	138	138	138	138	139		
Factor 2	Pearson Correlation	.849**	-.046	.210*	.838**	.170*	.314**	.578**	1	
	N	138	138	138	138	138	138	139	139	
Factor 3	Pearson Correlation	-.027	.481**	-.217*	.411**	.147	.085	-.117	.160	1
	N	138	138	138	138	138	138	139	139	139

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

For the second part of the research we hypothesised that caregivers who responded with high scores to the YBS, the WAI-S and the FRC should do so for the TAM as well. Positive correlations would provide further evidence that the TAM is valid as a measure of treatment outcome and is linked to the therapeutic relationship. A number of statistical tests were performed, with a small sample size and to reduce the likelihood of a Type I error, a alpha level of .01 was adopted.

5.2 Youth Behaviour Subscales

For the second part of the study we wanted to know if significant treatment changes occurred as measured by the YBS collected throughout the course of MST treatment. Dependent t-tests were conducted to see if there was a significant difference between T1 and T2 in the Youth subscales. Table nine depicts the results of this analysis.

Table 9

Youth	Time One			Time Two			t	p
	M	SD		M	SD			
Youth's behaviour	2.66	1.61		3.41	1.56		1.47	0.16
Parenting skills	3.83	1.19		4.16	0.71		-1.17	0.26
Youth's school/ work performance	2.66	1.43		3	1.47		-0.77	0.45
Youth's ability to get along with peers	3.16	1.52		4.41	1.24		2.26	0.04
Family communication	3.25	1.71		3.58	1.37		1.07	0.30
Parent's wellbeing	3.91	1.50		4.5	1.16		2.02	0.06
Family togetherness	3.41	1.50		4.16	1.33		1.82	0.09
Young person's wellbeing	2.08	1.24		3.33	1.77		2.91	0.01[**]
Who is youth with?	3.5	1.73		4.58	0.66		2.16	0.05

** Correlation is significant at the 0.01 level (2-tailed)

The t-tests for dependent means show that there was a significant change in the youth's well being. The direction of change was positive as a result of treatment for these three measures. No other measures showed significant changes during treatment, although the scores did improve overall.

Correlations were then computed on individual youth scales and recidivism for both T1 (Table 10) and T2 (Table 11) are presented. Data was collected at T1 concerning the length of time the family had been experiencing difficulty with their youth's behaviour, whether the youth had a immediate relation who had been in trouble with the police and whether there was a history of substance use within the youth's family.

Table 10

		Youth's Behaviour	Parenting Skills	School/ Work performance	Youths & Peers	Family Communication	Parent's wellbeing	Family Togetherness	Youth's wellbeing	Length of Time	Who youth is with	Relations in trouble with Police	Family history Substance Use
Youth's Behaviour	Pearson Correlation												
Parenting Skills	Pearson Correlation	.299											
	N	13											
School/Work performance	Pearson Correlation	.085	-.126										
	N	13	13										
Youths & Peers	Pearson Correlation	.166	-.174	.344									
	N	13	13	13									
Family Communication	Pearson Correlation	.421	.187	-.124	-.116								
	N	13	13	13	13								
Parent's wellbeing	Pearson Correlation	.427		.477	.574	439							
	N	13		13	13	13							
Family Togetherness	Pearson Correlation	.303	-.054	.298	.102	.688**	.625						
	N	13	13	13	13	13	13						
Youth's wellbeing	Pearson Correlation	.713**	.194	.346	-.029	.479	.348	.513					
	N	13	13	13	13	13	13	13					
Length of Time	Pearson Correlation	-.015	.364	.037	-.036	-.066	-.104	.085	-.099				
	N	13	13	13	13	13	13	13	13				
Who youth is with	Pearson Correlation	.713**	.266	-.014	.351	.565	.714**	.510	.323	.063			
	N	13	13	13	13	13	13	13	13	13			

Relations in trouble with Police	Pearson Correlation	-.344	-.253	-.072	.369	-.489	-.150	-.471	-.604	.297	-.256		
	N	13	13	13	13.	13	13	13	13	13	13		
Family history Substance Use	Pearson Correlation	.117	.210	-.113	.108	-.247	-1.09	.101	-.144	.623	.328	.178	
	N	13	13	13	13	13	13	13	13	13	13	13	
YJ Post or Convicted	Pearson Correlation	-.461	-.359	.030	-3.00	.552	.239	.425	-.287	-1.8	-.098	.272	-.612
	N	10	10	10	10	10	10	10	10	10	10	10	10
YRS	Pearson Correlation	.079	.044	.019	-.344	.073	-.097	-.052	.432	-.579	-.282	-.734	-.339
	N	9	9	9	9	9	9	9	9	9	9	9	9
Convicted/Serious?	Pearson Correlation	-.306	-.480	.569	.248	-.150	.260	.173	.293	-.620	-.441	.111	-.666
	N	10	10	10	10	10	10	10	10	10	10	10	10

**Correlation is significant at the 0.01 level (2-tailed)

As Table Ten depicts overall the majority of the correlations in the YBS were positive, indicating that as one item increased so too did the other. The Youths behaviour at T1 was highly correlated with their well being and who they spend time with. This result indicates that Youth whose parents indicated that they were not concerned with their youth's behaviour were likely to say that they were not concerned with their youth's health or whom their youth was spending time with. Parents Well-being was highly correlated with whom the Youth was with; implying that caregivers who indicated that they were not concerned with their well-being would also indicated that they did not always know whom their youth was with.

Table 11

		Youth's Behaviour	Parenting Skills	School/Work performance	Youths & Peers	Family Communication	Parent's wellbeing	Family Togetherness	Youth's wellbeing	Who youth is with
Youth's Behaviour	Pearson Correlation N									
Parenting Skills	Pearson Correlation	-.023								
	N	12								
School/Work performance	Pearson Correlation	.197	.429							
	N	12	12							
Youths & Peers	Pearson Correlation	.558	-.289	.546						
	N	12	12	12						
Family Communication	Pearson Correlation	.678**	.168	.491	.589					
	N	12	12	12	12					
Parent's wellbeing	Pearson Correlation	.672	-.325	.421	.910	.706**				
	N	12	12	12	12	12				
Family Togetherness	Pearson Correlation	.703**	-.221	.460	.941	.731**	.873**			
	N	12	12	12	12	12	12			
Youth's wellbeing	Pearson Correlation	.927	-.190	.069	.468	.730**	.570	.664**		
	N	12	12	12	12	12	12	12		
Who youth is with	Pearson Correlation	.007	.158	.276	.009	.090	-.175	.085	-.025	
	N	12	12	12	12	12	12	12	12	
YJ Post or Convicted	Pearson Correlation	-.15	.039	.239	.359	.359	.298	.399	.057	-.254
	N	9	9	9	9	9	9	9	9	9
YRS	Pearson Correlation	.394	.090	.086	.153	.117	.023	.179	.448	-.024
	N	8	8	8	8	8	8	8	8	8
Convicted/Serious?	Pearson Correlation	.237	-.125	-.189	.209	.209	.189	.287	.432	-.746
	N	9	9	9	9	9	9	9	9	9

**Correlation is significant at the 0.01 level (2-tailed)

As can be seen from Table 11, overall, the Youth's behaviour and well-being, parents well-being, family togetherness and family communication are all highly correlated, which suggests that each of these items impacts on the others, as expected. Parents who are concerned about their own health and stress levels will find it difficult to monitor their youth's behaviour and health.

5.3   Working Alliance Inventory – Short Form (WAI-S)

As part of the second study we also investigated whether there was any change during treatment in the therapeutic relationship between the MST Caseworker and the family because this would affect answers to individual TAM items and therefore the data analysed for the subscales. T-tests for dependent means were conducted to see if there was a statistical difference between T1 and T2.

Table 12

WAI-S Item	First WAI-S		Second WAI-S		*t*	*p*
	M	**SD**	**M**	**SD**		
WAI-S 1	6.33	1.07	6.00	0.95	0.80	0.43
WAI-S 2	5.83	1.46	5.67	1.72	0.56	0.58
WAI-S 3	6.33	0.98	6.68	0.38	-1.48	0.16
WAI-S 4	1.42	0.79	1.83	1.52	-0.78	0.44
WAI-S 5	6.33	0.88	6.58	0.90	-0.67	0.51
WAI-S 6	6.42	0.99	6.50	0.79	-0.22	0.82
WAI-S 7	6.17	0.93	6.67	0.65	-2.17	0.05
WAI-S 8	6.92	0.28	6.50	0.67	1.82	0.09
WAI-S 9	6.83	0.57	6.75	0.62	0.32	0.75
WAI-S 10	1.83	1.52	1.67	0.77	0.30	0.76
WAI-S 11	6.17	1.40	6.50	0.67	-1.30	0.21
WAI-S 12	6.17	0.93	6.00	1.12	0.36	0.72

As can be seen from Table 12 there are no significant changes throughout treatment in the therapeutic alliance relationship.

Next correlations were computed between the WAI-S and recidivism for T1 (Table 13) and T2 (Table 14).

Table 13

WAI-S Item		WAI-S 1	WAI-S 2	WAI-S 3	WAI-S 4	WAI-S 5	WAI-S 6	WAI-S 7	WAI-S 8	WAI-S 9	WAI-S 10	WAI-S 11	WAI-S 12
WAI-S 1	Pearson Correlation												
	N												
WAI-S 2	Pearson Correlation	-.145											
	N	13											
WAI-S 3	Pearson Correlation	.039	-.164										
	N	13	13										
WAI-S 4	Pearson Correlation	.320	.255	-.176									
	N	13	13	13									
WAI-S 5	Pearson Correlation	-.217	-.275	.418	-.221								
	N	13	13	13	13								
WAI-S 6	Pearson Correlation	.057	.386	.105	.078	-.293							
	N	13	13	13	13	13							
WAI-S 7	Pearson Correlation	-.246	-.247	.625	-.697**	.441	.103						
	N	13	13	13	13	13	13						
WAI-S 8	Pearson Correlation	.686**	-.016	-.220	.150	-.204	-.167	-.283					
	N	13	13	13	13	13	13	13					
WAI-S 9	Pearson Correlation	-.177	.192	.098	-.241	-.204	.454	.386	-.083				
	N	13	13	13	13	13	13	13	13				
WAI-S 10	Pearson Correlation	-.477	.303	.411	.304	.076	.313	.029	-.453	.156			
	N	13	13	13	13	13	13	13	13	13			
WAI-S 11	Pearson Correlation	.108	.349	.199	.306	-.208	.734**	-.099	-.170	-.170	.318		
	N	13	13	13	13	13	13	13	13	13	13		
WAI-S 12	Pearson Correlation	.159	.077	.482	.099	-.183	.429	.354	.075	.075	.285	.614	
	N	13	13	13	13	13	13	13	13	13	13	13	
YRS	Pearson Correlation	-.459	-.162	.478	-.322	.680	.007	.682	-.734	[a]	.101	.062	-.075
	N	9	9	9	9	9	9	9	9	9	9	9	9
Convicted/ Serious?	Pearson Correlation	.196	.272	.272	-.167	.291	.181	.361	.111	[a]	-.165	.236	.318
	N	10	10	10	10	10	10	10	10	10	10	10	10

** Correlation is significant at the 0.01 level (2-tailed)

Table 14

WAI-S Item		WAI-S 1	WAI-S 2	WAI-S 3	WAI-S 4	WAI-S 5	WAI-S 6	WAI-S 7	WAI-S 8	WAI-S 9	WAI-S 10	WAI-S 11	WAI-S 12
WAI-S 1	Pearson Correlation												
	N												
WAI-S 2	Pearson Correlation	.277											
	N	12											
WAI-S 3	Pearson Correlation	.000	.181										
	N	12	12										
WAI-S 4	Pearson Correlation	-.375	-.437	-.510									
	N	12	12	12									
WAI-S 5	Pearson Correlation	.318	.371	.562	-.716[**]								
	N	12	12	12	12								
WAI-S 6	Pearson Correlation	.120	.265	.000	-.597	.063							
	N	12	12	12	12	12							
WAI-S 7	Pearson Correlation	-.146	.216	.120	-.518	.207	.700						
	N	12	12	12	12	12	12						
WAI-S 8	Pearson Correlation	.707	-.156	.000	-.177	.374	-.169	.000					
	N	12	12	12	12	12	12	12					
WAI-S 9	Pearson Correlation	-.153	-.339	.188	-.144	-.203	.092	.225	.108				
	N	12	12	12	12	12	12	12	12				
WAI-S 10	Pearson Correlation	-.490	-.158	.100	-.051	.303	-.146	.299	-.173	-.188			
	N	12	12	12	12	12	12	12	12	12			
WAI-S 11	Pearson Correlation	.566	.548	.000	-.353	.075	.169	.000	.200	.108	-.693		
	N	12	12	12	12	12	12	12	12	12	12		
WAI-S 12	Pearson Correlation	.423	.561	-.207	.158	-.090	-.303	-.371	.000	-.389	-.311	.598	
	N	9	9	9	9	9	9	9	9	9	9	9	
YRS	Pearson Correlation	.555	-.022	.[a]	-.356	-.740	.195	.253	.612	.455	-.176	.216	.050
	N	8	8	8	8	8	8	8	8	8	8	8	8
Convicted/ Serious?	Pearson Correlation	.449	.373	.125	-.246	.164	.289	.229	.316	.125	-.289	.354	.112
	N	9	9	9	9	9	9	9	9	9	9	9	9

** Correlation is significant at the 0.01 level (2-tailed)

5.3.0 WAI-S and Recidivism

Tables 13 and 14 depict the correlations of the individual WAI-S items and recidivism. These correlations indicate that positively worded items would probably be positively correlated with each other and negatively worded items would be positively correlated with each other. These correlations further suggest that negatively worded items would likely be negatively correlated with the positively worded questions. For Example "Therapist does not understand what I am trying to accomplish in therapy" was significantly negatively correlated with "I feel therapist appreciates me".

As Tables 13 and 14 show, none of the individual WAI-S items were significantly correlated with the measures of recidivism used.

Table 15

		WAI-S1	WAI-S2	WAI-S3	WAI-S4	WAI-S5	WAI-S6	WAI-S7	WAI-S8	WAI-S9	WAI-S10	WAI-S11	WAI-S12	TAM Adherence	TAM N/P	TAM P/S	TAM Interactions	TAM Direction	TAM Consensus
WAI-S1	Pearson Correlation	1																	
	N																		
WAI-S2	Pearson Correlation	-.145	1																
	N	13																	
WAI-S3	Pearson Correlation	.039	-.164	1															
	N	13	13																
WAI-S4	Pearson Correlation	.320	.255	-.176	1														
	N	13	13	13															
WAI-S5	Pearson Correlation	-.217	-.275	.418	-.221	1													
	N	13	13	13	13														
WAI-S6	Pearson Correlation	.057	.386	.105	.078	-.293	1												
	N	13	13	13	13	13													
WAI-S7	Pearson Correlation	-.246	-.247	.625	-.697[**]	.441	.103	1											
	N	13	13	13	13	13	13												
WAI-S8	Pearson Correlation	.686[**]	-.016	-.220	.150	-.204	-.167	-.283	1										
	N	13	13	13	13	13	13	13											
WAI-S9	Pearson Correlation	-.177	.192	.098	-.241	-.204	.454	.386	-.083	1									
	N	13	13	13	13	13	13	13	13										
WAI-S10	Pearson Correlation	-.477	.303	.411	.304	.076	.313	.029	-.453	.156	1								
	N	13	13	13	13	13	13	13	13	13									
WAI-S11	Pearson Correlation	.108	.349	.199	.306	-.208	.734[**]	-.099	-.170	0.170	.318	1							

	N	13	13	13	13	13	13	13	13	13	13								
WAI-S12	Pearson Correlation	.159	.077	.482	.099	-.183	.429	.354	.075	.075	.285	.614	1						
	N	13	13	13	13	13	13	13	13	13	13	13							
TAM Adherence	Pearson Correlation	.026	.675	.186	.283	-.008	.380	-.144	-.200	-.343	.289	.724**	.291	1					
	N	13	13	13	13	13	13	13	13	13	13	13	13						
TAM N/P	Pearson Correlation	-.258	-.265	-.058	-.524	.517	-.291	.364	-.088	-.182	-.528	-.143	-.196	-.116	1				
	N	13	13	13	13	13	13	13	13	13	13	13	13	13					
TAM P/S	Pearson Correlation	.146	-.206	.532	.196	.431	.217	.421	-.276	.024	.342	.202	.447	.097	-.225	1			
	N	13	13	13	13	13	13	13	13	13	13	13	13	13	13				
TAM Interactions	Pearson Correlation	-.305	.524	-.305	.242	.095	-.027	-.254	.056	-.329	.138	.235	-.079	.509	.235	-.335	1		
	N	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13			
TAM Direction	Pearson Correlation	.041	.498	-.213	.446	-.435	.441	-.602	.104	.247	.463	.241	-.150	.220	-.693**	-.246	.071	1	
	N	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13		
TAM Consensus	Pearson Correlation	-.078	.223	.019	-.160	-.004	.418	-.174	-.119	-.110	-.012	.539	-.088	.394	.306	-.407	.169	.282	1
	N	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13

** Correlation is significant at the 0.01 level

Table 16

		WAI-S1	WAI-S2	WAI-S3	WAI-S4	WAI-S5	WAI-S6	WAI-S7	WAI-S8	WAI-S9	WAI-S10	WAI-S11	WAI-S12	TAM Adherence	TAM N/P	TAM P/S	TAM Interactions	TAM Direction	TAM Consensus
WAI-S1	Pearson Correlation	1																	
	N																		
WAI-S2	Pearson Correlation	.277	1																
	N	12																	
WAI-S3	Pearson Correlation	.000	.181	1															
	N	12	12																
WAI-S4	Pearson Correlation	-.375	-.437	-.510	1														
	N	12	12	12															
WAI-S5	Pearson Correlation	.318	.371	.562	-.716[*]	1													
	N	12	12	12	12[*]														
WAI-S6	Pearson Correlation	.120	.265	.000	-.597	.063	1												
	N	12	12	12	12	12													
WAI-S7	Pearson Correlation	-.146	.216	.120	-.518	.207	.700	1											
	N	12	12	12	12	12	12												
WAI-S8	Pearson Correlation	.707	-.156	.000	-.177	.374	-.169	.000	1										
	N	12	12	12	12	12	12	12											
WAI-S9	Pearson Correlation	-.153	-.339	.188	-.144	-.203	.092	.225	.108	1									
	N	12	12	12	12	12	12	12											
WAI-S10	Pearson Correlation	-.490	-.158	.100	-.051	.303	-.146	.299	-.173	-.188	1								

	N	12	12	12	12	12	12	12	12	12								
WAI-S11	Pearson Correlation	.566	.548	.000	-.353	.075	.169	.000	.200	.108	-.693	1						
	N	12	12	12	12	12	12	12	12	12	12						
WAI-S12	Pearson Correlation	.423	.561	-.207	.158	-.090	-.303	-.371	.000	-.389	-.311	.598	1					
	N	12	12	12	12	12	12	12	12	12	12	12						
TAM Adherence	Pearson Correlation	.333	.903**	-.082	-.185	.245	.010	.013	-.106	-.465	-.118	.588	.813**	1				
	N	11	11	11	11	11	11	11	11	11	11	11	11					
TAM N/P	Pearson Correlation	-.159	-.060	-.046	-.024	-.185	.013	.147	-.143	-.152	.233	-.006	-.098	-.040	1			
	N	11	11	11	11	11	11	11	11	11	11	11	11	11				
TAM P/S	Pearson Correlation	.308	.057	-.086	-.154	-.092	.063	-.279	-.047	-.082	-.331	.416	.128	.201	.537	1		
	N	11	11	11	11	11	11	11	11	11	11	11	11	11	11			
TAM Interactions	Pearson Correlation	.039	.458	.054	.059	.253	-.437	-.620	-.327	-.580	.109	.081	.589	.536	-.069	.150	1	
	N	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11		
TAM Direction	Pearson Correlation	-.273	-.061	-.327	.666	-.329	-.420	-.139	.006	-.048	-.018	-.166	.294	.029	-.481	-.746**	.019	1
	N	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	
TAM Consensu	Pearson Correlation	.123	.424	-.179	.176	-.449	-.072	-.089	-.096	.170	-.372	.358	.464	.323	.203	.070	.103	.191	1
	N	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11

** Correlation is significant at the 0.01 level

5.3.1 WAI-S correlated with the TAM subscales

Correlations shown in Tables 15 and 16 show those between the WAI-S and the TAM, as it was hypothesised that there should be a positive relationship between the WAI-S and the TAM. Families who indicated on the WAI-S that they had a positive therapeutic alliance should also respond accordingly on the TAM. However caution should be used when interpreting these correlations due to the small N (T1 N=13, T2 N=11).

The WAI-S focuses on the Tasks, Bonds and Goals of the treatment process. There were few correlations at T1 between the WAI-S and the TAM, which could be explained by the fact that therapeutic alliance may not have had time to develop. The correlations that did occur were mainly between Task and Adherence oriented questions, suggesting that at the beginning of MST treatment caregivers preferred to be doing something (a task) they saw as constructive in helping their young person reduced their offending.

For the second time that the questionnaires were administered the correlations suggest that the Bond between caseworker and the primary caregiver were the most important priority in being able to ensure that families achieved positive results. Caregivers who felt as though they were valued and liked by their RYOP caseworker, believed in their caseworkers ability and believed they were trusted by their caseworker as determined by the WAI-S, were more likely to have productive meetings with their caseworker and feel as though they were working on specific problem solving strategies as measured by the TAM.

5.4   Family Relationship Characteristics (FRC)

Next t-tests for dependent means were conducted on the Family Relationship Characteristics (Tolan et al, 1997) to find out if there were any statistical differences between T1 and T2 caregiver answers. Results are presented in table 17 along with the means and standard deviations.

Table 17

FRC Item	First FRC		Second FRC		t	*p*
	M	**SD**	**M**	**SD**		
FRC 1	4.33	0.65	5	0	-3.54	0.00**
FRC 2	4.83	0.57	4.83	0.57	0	1.00
FRC 3	5	0	5	0		
FRC 4	4.33	0.77	4.66	0.65	-1.30	0.22
FRC 5	4.5	0.67	4.41	0.90	0.29	0.77
FRC 6	4.5	0.79	4.5	0.67	0	1.00
FRC 7	4.33	1.23	1.66	1.15	-1.77	0.10
FRC 8	4.66	0.49	4.75	0.45	-1	0.33
FRC 9	3.58	0.79	3.75	0.86	-0.61	0.55
FRC 10	4.83	0.38	4.91	0.28	-0.56	0.58

FRC 11	3.08	1.61	3	1.41	0.43	0.67
FRC 12	3.91	1.31	3.83	1.58	0.43	0.67
FRC 13	4.25	0.96	3.83	1.19	1.33	0.21
FRC 14	5	0	4.5	0.79	2.17	0.05
FRC 15	3.16	1.52	2.83	1.33	0.88	0.39
FRC 16	3.66	1.61	4.25	1.05	-1.46	0.17
FRC 17	1.66	1.12	1.75	0.96	-0.29	0.77
FRC 18	1.58	0.90	1.5	0.67	0.36	0.72
FRC 19	1	0	1	0		
FRC 20	1.33	0.49	1.41	0.79	-0.36	0.72
FRC 21	3.66	0.77	3.41	1.31	0.82	0.42
FRC 22	3	1.65	2.66	1.49	0.71	0.48
FRC 23	2.33	1.30	2.16	1.33	0.51	0.61
FRC 24	1.66	0.77	2.08	1.08	-1.29	0.24
FRC 25	2.58	1.24	2.66	1.23	-5.6	0.58
FRC 26	2.08	0.99	1.75	0.96	0.84	0.41
FRC 27	2.25	1.35	1.41	0.79	2.15	0.05
FRC 28	1.5	1.24	1.41	0.79	0.26	0.79
FRC 29	2.08	1.24	1.33	0.77	2.13	0.05
FRC 30	2.83	1.46	2.5	1.44	0.74	0.47
FRC 31	2.08	1.16	1.41	0.51	2.96	0.01[**]
FRC 32	1.41	0.99	1	0	1.44	0.17
FRC 33	2.83	1.58	3.41	1.56	-1.46	0.17
FRC 34	4.25	0.75	3.75	1.13	2.17	0.05
FRC 35	3	1.59	2.75	1.54	0.67	0.51

** Result is significant at the 0.01 level (2-tailed)

As table 17 shows, there was little statistical change from time one to time two. However changes in questions 1 and 31 were statistically significant. This means that for question 1 caregivers answers to Parents should teach their children what they need to know to "make it" in the world increased from a M = 4.00 (SD = 0.65) to a M = 5 (SD = 0) indicating that at T2 for question 1 all caregivers were answering yes this was always true).

For question 31, caregivers lowered their answers significantly changing from 'quite a bit true' to a 'little true'. This suggests that through out the MST treatment period positive communication within the family may have increased, or that caregivers may have been responding in a socially desirable way at T1 and answered honestly at T2.

Correlations were then computed to ascertain whether or not there were any relationships between the FRC and recidivism and the FRC and the TAM.

5.4.0 FRC and Recidivism

Overall the correlations in Tables 18 and 19 (Appendix Ten & Eleven) indicate that the individual FRC items relating to Beliefs about Family and Family Cohesion were significantly positively correlated with each other. By contrast, these items were significantly negatively correlated with FRC items related to Shared Deviant Beliefs, Family Support, Family Organisation and Family

Communication. The fact that the individual items were correlated with other items from the same subgroup indicates that the FRC has good face validity and is accessing those family characteristics that it is attempting to do.

Seven of the individual FRC items were correlated with measures of recidivism. At T1 FRC 9 was correlated to YJ Post or Convicted, suggesting that caregivers who responded with "Not true at all" or "A little true" had youth who did not receive a new Youth Justice intake or a new Charge for an offence post MST treatment. And FRC 29 was significantly negatively correlated with the YRS, which is not what would be expected. One would expect the correlation between question 29 and the YRS to be a positive one, that is the more the children make the decisions in the family, the higher the YRS score would be.

Correlations for individual FRC items 21 and 35 at T2 indicate that youth will have a longer time post MST treatment before being charged with a new serious offence. These individual FRC items represent Family Support (21) and Family Communication (35). The correlations imply that these two Family Relationship groups as defined by Tolan and colleagues (1997) are related to the measures of recidivism used in the current research.

5.4.1 FRC correlated with the TAM subscales

Generally the correlations shown in Tables 20 and 21 (Appendices 12 & 13) indicate that the Adherence subscale of the TAM was most relevant in relation to the individual FRC items. Individual TAM items related to the Adherence subscale were highly correlated with FRC items related to Family relationship characteristics that describe Beliefs about Family and Family Support, all of these correlations are in the expected directions. Finally individual TAM items related to Therapist Attempts to Change Interactions were likely to be related to individual FRC items representing Beliefs about Family, these correlations were in the expected directions.

6.0 Discussion of Results

The central hypothesis in this research was whether results from first and final TAM administrations could provide information about adherence to MST treatment in a sample of New Zealand youth offenders, and that the TAM scores would predict recidivism within the sample. The second hypothesis was that TAM results should correlate with the YBS, WAI-S and the FRC to provide further predictive information about recidivism and success in the MST treatment process within a sample of the RYOP population.

6.0.1 TAM subscales and Recidivism

Overall the TAM subscale results are not similar to those collected in earlier studies (Huey et. al., 2000; Henggeler et. al., 1997). In fact the results would suggest that overall Adherence measures as collected within this study are low. Correlations indicate that for T1 the subscales were significantly correlated with each other, as would be expected, but not with the measures of recidivism used. Correlations between the subscales at both T1 and T2, would be expected as the higher the Adherence to MST treatment, the more Productive sessions would be and the greater the family and therapist agreement on treatment direction and progression. As the subscales for T1 are from the initial TAM assessment it may be harder for families to believe the therapist will be helpful in reducing the problems they are experiencing with their young person, and therefore any re-offending that may occur.

Correlations for T2 TAM assessment, however indicate that the higher the Youth's Risk Screen score the more likely it is that meetings between the family and the RYOP caseworker would be Non-Productive and the Family-Therapist Problem Solving Efforts would be lower. This suggests that adherence may have been lower for families with higher risk youth. Another possibility is that by the second TAM assessment, made towards the end of MST treatment, that the family may have already made the necessary changes needed to support their young person and so their responses to the TAM will be in the negative, for example "The therapy session included a lot of irrelevant small talk (chit-chat)" and the primary caregiver could respond "Yes, quite a bit" or the caregivers response to "My family and the therapist worked well together effectively" might be "Yeah, a little, we haven't seen much of him/her in a while". When families are doing well, caseworkers tend to have regular phone contact instead of face-to-face meetings. And towards the end of treatment therapists tend to give the families space in order to practise new behaviours.

Conversely the correlations may suggest that youth with a high risk screen score may live with caregivers who do not see their behaviour as a problem and may view the therapist as an interloper, or that the youth is the person who needs to address their own behaviour, or there

maybe personality clashes between the therapist and the family resulting in little being accomplished during sessions.

6.0.2 Individual TAM items and Recidivism

The correlations between the individual TAM items highlights that they are in fact related with each other and provide further support for the face validity of the TAM. Questions that focus on moving treatment forward, such as Adherence, Therapist Attempts to Change Interactions and Therapist-Family Problem Solving Efforts and Consensus were correlated with each other, as were TAM questions related to Lack of Direction, Non-productive sessions and when correlated with TAM questions focused on moving ahead in treatment, these were negative.

Some of the individual TAM items were also correlated with measures used to indicate recidivism, that is the YRS, Convicted/Serious and YJ Post or Convicted. For both time periods the individual TAM items related to the recidivism measures were similar, TAM questions 15, 20 and 26. This would suggest that questions relating to Non-Productive Sessions are useful at being able to indicate which whether a youth is more likely to result in a youth re-offend, when using the YRS as a measure of recidivism.

6.0.3 Factor Analysis

It is possible that using six sub-factors may represent an overly complex model for MST adherence. Factor analysis conducted in the current research yielded a three-factor model that accounted for 45.209 percent of the variance in individual TAM items. It is tentatively suggested that Factor One represents Adherence to the MST principles, that Factor Two may represent the Therapeutic Collaboration between the family and the RYOP caseworker and that Factor Three perhaps indicates the families' uncertainty in regards to Treatment Direction. However these are very tentative labels developed from a small N and further research needs to be conducted to clarify this.

6.0.4 Youth subscales and Recidivism

Generally these correlations imply that if a family has been experiencing difficulty with their youth's behaviour for some time, substance use has occurred within the family and the caregivers do not know who their youth friends are, then it is probable that their young person will be charged with a new serious offence post MST treatment. Having other family members in trouble with the police indicates that a youth will have a high YRS score.

6.0.5 WAI-S and Recidivism

Several questions on the WAI-S were correlated with recidivism, however these correlations were not significant. A larger sample size would be needed in order to make specific inferences concerning the WAI-S and the measures of recidivism used in the current study.

6.0.6 WAI-S and the TAM

The WAI-S focuses on the Tasks, Bonds and Goals of the treatment process. One correlation at T1 occurred and was related to Adherence and Goals, suggesting that at the beginning of MST treatment caregivers were more likely to adhere to the treatment protocol if they knew what they were working towards (Goal).

For T2 questionnaires, correlations suggest that the Task between caseworker and the primary caregiver was the most important factor in being able to ensure that families achieved positive results. Caregivers who felt as though they were doing something (a task) constructive in helping their young person reduced their antisocial behaviour were more likely to adhere to MST treatment, that is followed their RYO caseworkers suggestions.

The results from these correlations indicate that caregivers were more aligned with their caseworker towards the end of MST treatment, which is expected, as the caseworker and family should have built up a therapeutic relationship throughout treatment, or else there would be little adherence to treatment principles and therefore little change in family processes.

6.0.7 FRC and Recidivism

The FRC had good reliability and indicates that overall individual FRC items are related to each other and to the subscale constructs proposed by Tolan and associates (1997). That is Beliefs about Families, Family Cohesion, Support, Organisation, Communication and Shared Deviant Beliefs.

Several of the individual FRC items were correlated with the measures of recidivism used, suggesting that the FRC could provide further information about re-offending in the RYO participants. However a larger N would be needed to make specific inferences concerning the usefulness of using the FRC as a predictive measure of recidivism.

6.0.8 FRC and the TAM

Adherence was overall commonly related to the FRC, suggesting that this measure did access the therapeutic alliance and provided increased information concerning family practices and how these relate to treatment processes. Adherence was commonly correlated with Family Support, indicating that caregivers who felt supported by other family members were more likely to adhere to the MST treatment process. Finally individual TAM items related to the Family-Therapist Consensus subscale were likely to be related to individual FRC items representing Beliefs about Family, these correlations were in the expected directions.

6.1 Summary of Results

These results indicate that the RYOP TAM data did not produce similar factor outcomes as those in an earlier study (Henggeler et. al., 1997). Henggeler and colleagues (1997) based the six factor outcomes on data collected from 62 identified caregivers during the fourth and eighth weeks of MST treatment. The RYO TAM data was collected within six weeks of starting MST treatment and within six weeks of finishing treatment. These two differing time periods may account for some of the differences found between the current research and the earlier MST studies. Many of the factor loadings from Henggeler et. al., (1997) study were below .40, although some researchers include items with factor loadings that exceed only .30 (-.30), higher levels provide increased confidence that a variable is contributing meaningfully to a factor.

Factor Analysis for the current research suggests a three-factor solution as explaining the majority of variance (45%) in individual TAM items. Many of the factor loadings found in the current study were .30 and above. As has been previously mentioned tentative labels for these factors are Adherence, Therapeutic Collaboration and Treatment direction. The majority of items loaded on to Adherence, indicating that the TAM was assessing therapist Adherence to the MST model in the sampled RYO population. The developers of MST consider adherence to be a measure of treatment quality and therefore outcomes, however as Table 1 indicates the mean level for adherence was below zero and appeared to decrease from T1 to T2. Overall this suggests that the families perceived therapist adherence to decrease throughout the course of the RYO treatment.

The second hypothesis that a positive therapeutic alliance would be reflected in the YBS, WAI-S and FRC, and consequently add to knowledge about youth recidivism in a New Zealand population had limited support due to the small N. Generally the YBS results indicate that there was improvement in the youths' behaviour throughout MST treatment. Importantly the YBS identified youth who had an increased risk for recidivism, either through Static Risk Factors such as family members in trouble with the police, parental health issues and familial substance use or through Dynamic Risk Factors such as parental monitoring ability.

The WAI-S indicated that overall caregivers who perceived a positive therapeutic alliance with their MST therapist were more likely to work collaboratively with the therapist to achieve adherence. Although none of the individual WAI-S items were related to the measures of recidivism used, several did reach near significance, indicating that these items could potentially provide additional information about a youth's heightened risk for re-offending if used with a larger N.

Tolan and colleagues (1997) reported that families who were organised were less likely to tolerate antisocial behaviour and were more supportive of their youth. The current results concur with this, indicating that generally Family Relationships as perceived by the caregiver improved from T1 to T2. Two individual FRC items were correlated with the measures of recidivism used, again suggesting that these items could potentially be useful in adding information concerning heightened risk for recidivism in youth. The FRC was overall highly correlated with adherence as measured by the TAM, suggesting that as the family became more cohesive and united throughout the RYOP, adherence to the MST model increased. Although adherence increased throughout treatment, the levels were not similar to those found in earlier studies (Huey, et. al., 2000; Henggeler, et. al., 1997) and did not reach the advised target score specified by MST Services Incorporated.

6.2   Methodological Limitations

Certain limitations did occur and need to be acknowledged. The RYOP is as yet a pilot programme and therefore still being adapted and developed for the New Zealand youth offending population. The RYOP had strict inclusion criteria and so the population was necessarily small, therefore the number of participants available was small to begin with and not everyone approached assented to participate in the study. This is particularly so for the second part of the study, which occurred towards the end of the RYOP pilot, meaning that referrals to the programme were decreasing in number, further reducing the sample population. This could be addressed in future research when the pilot has been completed.

The RYO participants were not representative of the adolescent population in general; the adolescents and their families who participated in the study represent those who have engaged in serious offending behaviour. In particular the RYO participants due to the strict inclusionary criteria had a mean age of 16.92 years, which is at the high end of the MST target age range. Implementing family therapy that includes increased parental monitoring and control at this age is challenging, as this is the time where adolescents demand increasing autonomy and independence, preferring to spend more time with peers than involved in family activities. This can effect engagement, especially if caregivers feel as though they are 'banging their head against a brick wall' when trying to monitor their older adolescents movements.

At times RYOP workers may have found it challenging to work with and engage demanding families and therefore implement and adhere to MST principles. It could be that at the times these TAM's were collected that engagement was a struggle for all concerned and therefore the measures recorded may be low. At the beginning of MST treatment engagement is low, as the

caseworker and family have yet to build trust and confidence, at the end of MST treatment the caseworker starts to disengage as they prepare to close the family from the programme.

Therapists were community workers, not necessarily trained in psychology, family therapy or youth counselling as such, for example the majority of caseworkers were probation officers or social workers. Earlier MST studies were conducted using Masters level therapists. As MST was relatively new to New Zealand at the time of the pilot period the availability of experienced therapists and supervisors was low, which directly relates to adherence. Research (Henggeler, Schoenwald, Liao, Letourneau & Edwards 2002) has found that competent MST supervisors result in positive outcomes for youth, that is reduced frequency and intensity of offending, reduced days incarcerated and increased number of days at school, which directly relates to therapist adherence.

Another factor to consider is that some families may not have understood the reason behind answering the TAM questions or may have English as a second language and therefore may not have understood the question or it's meaning. While every effort was made to ensure caregivers understood what the question meant, there is the possibility that they may not have and therefore may have answered in a way so as not to get the RYOP caseworker in trouble.

Social desirability in answering questions should be acknowledged in evaluating perceptions of interpersonal relationships. For Example, some caregivers may have been under the impression that the MST evaluator was the therapist 'boss' or that giving 'bad' answers would impact in a negative way on their therapist. It is beyond the scope of this research to resolve the full implications of social desirability however response style is a variable that one should consider in test inventories and behavioural ratings.

The type of method used to obtain consent, while making every effort to ensure return of forms, was not 100% effective and would need to be refined in future research in order to have a higher sample and also to include as many people as possible. In future research the research could physically obtain the filled in consent form. Also only parental/caregiver reports were obtained for all questionnaires, future research could address this by interviewing the youth as well.

Finally examining data between first and final TAM administration means that there could be differing time periods of data collection for each family depending on the duration of MST treatment received. For example some families for a variety of reasons may have closed before the four months of MST treatment was reached, while others may have had more than the average 4-month treatment. And the use of one group pre- to post-treatment limits discussion of results to categorical and description of the processes and outcomes achieved by the youth and their families during treatment and follow up.

6.3   Methodological Strengths

Methodological strengths of the current research include points such as it was conducted on a NZ population, while studies from overseas can allude to what is generally occurring for adolescents they are on different populations and cultures. The data collected in the present study builds on NZ research and adds to current information about the top five percent of NZ youth offenders. The current research concurs with the results of the recent RYOP evaluation completed by CRESA and Canterbury University (Grace, McLean & Warren, 2006) in that the RYOP TAM data does not provide evidence of the levels of Adherence suggested by the developers of MST in order to achieve positive outcomes for youth and their families.

Anonymity between the RYO client and MST evaluator was ensured through phone contact, and all efforts were done to obtain consent from all parties for the second phase of the research. The MST Evaluation co-ordinator during the period of phase one of the RYOP was also the lead researcher for this study and had familiarity with the TAM and collected all of the TAM's used in the present research. Therefore it is possible that the methodology in collecting questionnaires was similar for each family.

Multiple research tools were used in obtaining the data for the research, that is the TAM, WAI-S, FRC and the YBS enabling a broad picture of New Zealand offending to be collected. Information was collected at two time periods and over a period of 2 years, providing a snapshot of what was occurring for delinquents within NZ at the time.

Although the sample for the second study was small we were able to compare across the 4 questionnaires and ascertain face validity of each. Also the YBS, WAI-S and FRC could be useful at providing additional information about an increased risk for re-offending in future research.

6.4   Consistent and Inconsistent Findings

The findings were not consistent with those from earlier studies reporting on the sub-scales; instead results suggest a three-factor model as being able to explain the majority of variance within the individual TAM items. Although many of the individual items across the TAM, YBS, WAI-S and FRC were highly correlated, causation is warranted in interpreting these results and replication is needed. Correlation cannot infer causality, so although there maybe a correlation between familial patterns, therapeutic alliance and recidivism, this is indicative of a relationship only and further research needs to be undertaken to clarify this relationship.

Data was also collected concerning a youth's first YJ intake (M= 14.70 years SD=1.03), this information is potentially important as it could detail whether a youth offender can be classified

as LCP or A-L as described by Moffitt (1993). Moffitt (1993) described the age of onset for an individual on the LCP path as being younger than 11 years, whereas A-L offending usually starts at around 11 years of age. As research (Moffitt, 1993; Patterson et. al., 1989) shows, knowing whether an individual is LCP or A-L is important for identifying where interventions would be most useful. The data collected during the RYOP phase one, indicates youth participating in the programme would be classified as A-L by Moffitt (1993); however Moffitt does state that the history of a youth should also be known in order to ascertain whether they are LCP or A-L.

The use of the YRS as an inclusionary measure in the RYOP has enabled the programme to identify which youth would benefit most from participating in the RYOP and therefore receiving MST treatment. This resulted in the RYOP phase one, working with youth from the top five percent of NZ youth offenders (Grace, McLean & Warren, 2006).

The Evaluation of Phase One of the RYOP (Grace, McLean & Warren, 2006) concluded the recruitment process and criteria for inclusion on the programme may have taken youth whose risk level for re-offending was higher than youth in earlier MST studies. However the mean age of 16.92 years is consistent with the age at which researchers suggest offending behaviour peaks within the general population (Moffitt, 1993)

7.0 General Discussion

The principal hypothesis of the present research was not supported. The correlation results between the TAM subscales and the measures of recidivism used showed no statistical significance and correlation results between the individual TAM items and the measures of recidivism had limited significance.

Although TAM scores were taken at two different times, the initial and final TAM available for the family, it is clear that they are not consistent with previous levels of adherence and provided little predictive information concerning recidivism in the sampled RYOP population.

Findings of this study did not support previous research by the founders of MST (Henggeler et. al., 1997), however the results of this research are consistent with those of Curtis (2004) who identified that the TAM was not significantly related to ultimate outcomes, that is reduced offending, reduced out of home stays and increased school attendance, in New Zealand. It was predicted that the TAM administered to New Zealand families involved in the RYOP between May 2002 and June 2006 should provide information concerning adherence to the MST treatment process and perhaps provide predictive information concerning recidivism within the RYO participants. As the results depicted this was not the case and this could be for a number of reasons.

Phase one of the RYOP was the initial use of MST as a treatment alternative for NZ youth offenders. As studies (Henggeler, 2004) have reported it can take up to one year or longer for MST teams to become established and achieve consistently high TAM scores. The intensive nature of the programme is very demanding of families who may already be experiencing high levels of stress. Some caregivers may have misunderstood the programme itself, not realising the effort that would be required of them in affecting change in their young person. This coupled with stress could have resulted in the caregivers disengaging from treatment and viewing the TAM as a waste of time and therefore their answers may reflect this.

Another reason for the low TAM scores obtain in Phase one of the RYOP could be the lack of trained MST therapist and supervisors in New Zealand. While many of the caseworkers may have had experience working with families, they may not have been prepared for the level of supervision or intensity required that is integral to the MST process and therefore their TAM scores could reflect this.

The Evaluation of the RYOP (Grace, McLean & Warren, 2006) reported that the youth who participated in the programme were in the top five percent of NZ youth offenders, and more severe in externalising behaviour than those youth in previous MST studies. Working with youth and their families who have a long history of severe externalising behaviour is challenging and it could be adhereing to the MST model decreased as the seriousness of the youth's offending increased, which would affect TAM scores. In fact Schoenwald and colleagues (2003) reported similar findings, therapist adherence decreased the more severe a youths antisocial behaviour.

Further information collected, that is the WAI-S, FRC and the YBS was on a very small population and as such cannot be generalised to either the general adolescent population or the adolescent offending population. Although this information does agree with previous research that peer group, substance use and family members in contact with the police are highly correlated with youth offending (Peerson et. al., 2004; McMurran, 2001).

These findings point to the importance of focusing on patterns of behaviours over time within individuals or groups of individuals (LeBlanc & Kaspy, 1997; Tolan & Gorman-Smith, 1998). Identification of individual patterns of behaviour and the relations between potential risk characteristics can provide information that more readily translates into action by indicating what transitions and outcomes are likely for what individuals with a given history exhibiting a given pattern of delinquent behaviour (Gottfredson & Gottfredson, 1986).

The finding of specific relations between types of family problems and patterns of delinquent involvement over time can have important implications for intervention and prevention. Rather than assuming a general relation between family functioning and delinquent involvement, these

results suggest targeting specific aspects of family functioning to impact different patterns of delinquent involvement.

This study highlights some important facts that require additional research. Firstly this is the second such study of an MST treatment group within the New Zealand population, utilizing the TAM. Similar to the results of Curtis (2004) it was found that the TAM provided little predictive information concerning ultimate outcomes, that is out-of-home placements, school/work attendance and recidivism. The TAM has been revised in the States and a newer version has been released in New Zealand (March 2007). It would be interesting to see if similar results are obtained from the new version, if so this would indicate that a different TAM maybe needed for the New Zealand population due to the cultural differences within New Zealand.

7.1 Implications for Youth and their Family

The results of the current research are consistent with previous research on Families (Patterson et. al., 1989), increased parental monitoring and positive interactions between parents and their children provide the necessary social controls to decrease the risk of delinquency. According to a General Theory of Crime, if children are taught self-control and delay of gratification then the initiation into delinquency is greatly decreased.

Conversely if coercive behaviour patterns are not allowed to begin then this enables parents to develop discipline, and parental control and monitoring which effectively socialises their child to social norms. This also means that parents are able to respond appropriately to their children when they begin to display coercive behaviours. As the results indicate participation in MST treatment did improve family functioning and cohesion, suggesting that coercive behaviour interaction patterns can be modified.

The Youth Behaviour Scale provides evidence to suggest that antisocial peers, substance use within the family and prior familial contacts with the police maybe related to an increased risk of a young person being delinquent. However the sample used was extremely small and results cannot be generalised, one could tentatively suggest that if families discouraged contact with antisocial peers and substance use in front of the youth, then this may lower the youth's risk for delinquency.

Implications for Policy Makers

As the field of psychotherapy research moves toward efficacy and effectiveness, the present findings serve as a reminder that such research must attend to the fact that the link between treatment process and successful outcome moves through the relationship between family members and the caseworker. As such, research must focus on identifying those processes that

are related to successful outcomes, those that are related to unsuccessful outcomes, and those that appear to be unrelated to outcome.

The findings of this research concur with those of Grace, McLean & Warren (2006), in that Phase one of the RYOP did not produce the expected reductions in youth re-offending in the RYOP participants. Reasons for this have been given elsewhere in this report; however as MST research suggests it takes time for MST teams to become established. As MST was still relatively new within NZ during the time of phase one of RYOP, the availability of trained MST therapists and supervisors within NZ was low and therefore achieving results comparable to those reported in earlier MST studies was always going to be a challenge.

Implications from this research suggest that having trained MST therapists and supervisors with experience working with challenging youth and/or families relates directly to adherence to the MST principles, and therefore TAM adherence and recidivism. Therefore policy makers need to consider not only the transportability of such an intensive programme but also the time needed to establish an MST team and train therapists to the level required for working with such challenging families and youth.

The results reported here probably have more implications for policy-related research and debate about the appropriate treatment of serious juvenile offenders than they do for social policy per se. Most of the debate is from extreme ends, characterised by intense discord between those who believe youth offenders are a lost cause and should be locked up with the key thrown away and those who believe that there is potential for positive change in all delinquents.

8.0 Conclusion

Youth offending is a reality and no amount of research into the detrimental effects of offending can prevent this actuality. However this study contributes to the wider knowledge concerning family correlates of youth offending in NZ. The results of adherence to the MST model have been demonstrated in other populations to be successful in reducing the severity and frequency of youth offending. However research to date research has yet to confirm this in a New Zealand youth offending population. We did not find strong evidence in favour of the TAM as a predictor of successful treatment, as measured by the ultimate outcome of reducing re-offending. Hopefully, future research will lead to improved interventions for young New Zealand offenders and their families.

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Appendices

Therapist Adherence Measure (TAM)

Adherence

Item No	TAM Item
TAM 1	The meetings were lively and energetic
TAM 2	The therapist tried to understand how my family's problems all fit together.
TAM 5	The therapist recommended that family members do specific things to solve our problems.
TAM 6	The therapist's recommendations required family members to work on our problems almost every day.
TAM 7	My family and the therapist had similar ideas about ways to solve problems.
TAM 11	The therapist's recommendations should help the children to mature.
TAM 12	Family members and the therapist agreed upon the goals of the sessions.
TAM 13	My family talked with the therapist about how well we followed his/her recommendations from the previous session.
TAM 14	My family talked with the therapist about the success (or lack of success) of his/her recommendations from the previous session.
TAM 21	The therapist understood what is good about our family.
TAM 22	The therapist's recommendations made good use of our family strengths.
TAM 23	My family accepted that part of the therapist's job is to help us change certain things about our family.
TAM 24	During the session, we talked about some experiences that occurred in previous sessions.
TAM 25	The therapist's recommendations should help family members to become more responsible.

Non-Productive Sessions

Item No	TAM Item
TAM 15	The therapy session included a lot of irrelevant small talk (chit-chat).
TAM 16	NOT much was accomplished during the therapy sessions.
TAM 17	Family members were engaged in power struggles with the therapist.
TAM 26	There were awkward silences and pauses during the session.

Therapist Attempts to Change Interactions

Item No	TAM Item
TAM 8	The therapist tried to change some ways that family members interact with each other.
TAM 9	The therapist tried to change some ways that family members interact with people outside the family.

Therapist-Family Problem Solving Effort

Item No	TAM Item
TAM 3	My family and the therapists worked together effectively.
TAM 4	My family knew exactly which problems we were working on.

| TAM 7 | My family and the therapist had similar ideas about ways to solve problems. |
| TAM 10 | My family and the therapist were honest and straightforward with each other. |

Family-Therapist Consensus

Item No	TAM Item
TAM 7	My family and the therapist have similar ideas about ways to solve problems.
TAM 10	My family and the therapist were honest and straightforward with each other.
TAM 12	Family members and the therapist agreed upon the goals of the sessions.
TAM 13	My family talked with the therapist about how well we followed his/her recommendations from the previous session.
TAM 14	My family talked with the therapist about the success (or lack of success) of his/her recommendations from the previous session.

Lack of Direction

Item No	TAM Item
TAM 17	Family members were engaged in power struggles with the therapist.
TAM 18	The therapists' recommendations required us to do almost all the work.
TAM 19	The therapy sessions were boring.

| TAM 20 | The family was NOT sure about the direction of treatment |

Actual wording to Families involved in the RYOP between April 2004 and June 2006

1 Were the meetings with (therapist name) busy and full on – do you feel as though you talked about a lot?

2 Has (therapist name) tried to understand how your family's/your guys problems all fit together?

3 Do think your family/you guys and (therapist name) work well together?

4 Do you guys know exactly what problems you're are working on

5 Has (therapist name) suggested that your family/you guys do certain things to solve your problems?

6 Have these suggestions meant that your family/you guys are having to work on the problems almost every day?

7 Do you think your family/you guys and (therapist name) have the same kind of ideas about how to solve the problems?

8 Has (therapist name) tried to change some of the ways that you get along with each other in the family?

9 Has (therapist name) tried to change some of the ways that you guys get along with people outside of the family?

10 Do you think that your family/you guys and (therapist name) are honest and straightforward with each other?

11 Do you think that (therapist name) ideas and suggestions should help (youth's name) grow up?

12 Do you and (therapist name) agree about what you're going to do in the meetings?

13 Did you talk with (therapist name) about how well you followed his/her ideas from the previous meeting?

14 Did you talk about how well those ideas worked?

15 Was there a lot of off the topic chit-chat or talk in the last meeting?

16 Do you think you got a lot done in the last meeting?

17 Do you feel as though (therapist name) tried to get you to do things you didn't want to do?

18 Has (therapist name) suggestions meant that you guys are having to do most of the work?

19 Are the meetings with (therapist name) boring?

20 Do you guys know exactly where your heading with (therapist name) and where you want to end up?

21 Do you think (therapist name) knows what's good about your family?

22 Do (therapist name) suggestions make good use of your family strengths; you know those things that you guys are good at as a family?

23 Do you guys/your family accept that part of (therapist name) job is to help you change certain things about the family?

24 In the last meeting you had with (therapist name) did you talk about things that had happened in other meetings?

25 Should (therapist name) ideas help family members especially (youth's name) to become more responsible?

26 Were there any awkward silences or pauses in the last meeting – was there any time you felt uncomfortable?

APPENDIX TWO

MST TREATMENT PRINCIPLES

NGA MĀTĀPONO

HUIHUINGA PŪKENGA ATAWHAI

1.　　**FINDING THE FIT** The primary purpose of assessment is to understand the "fit" between the identified problems and their broader systemic context.
　　ĀROHI/WHAKATAU TE URU PAI Ko te tino tikanga o te aromatawai,ko te whakamātau me te whakatau i te uru pai, kia kitea ngā raruraru me ngā pūnaha whānui e horopaki ana.

2.　　**POSITIVE & STRENGTH FOCUSED** Therapeutic contacts should emphasize the positive and use systemic strengths as levers for change.
　　HĀNGAI TONU KI TE WHAKAMANA ME TEWHAKAPAKARI Ki te whakarerekē i ngā āhuatanga whakararu i te whānau, me aro kē atu ngā pūkenga atawhai ki ngā huihuinga pūkenga, hei tautoko, whakamana me te whakapakari i taua whānau.

3.　　**INCREASING RESPONSIBILITY** Interventions should be designed to promote responsible behaviour and decrease irresponsible behaviour among family members.
　　WHAKAPIKI KAWENGA Me hangā he wawaotanga, e hāngai ana ki te whakamana me te whakapiki i te kawenga o te whanonga tino pai, me te whakaheke i te whanonga whakararu i waenganui ō te whānau.

4.　　**PRESENT-FOCUSED, ACTION-ORIENTED, & WELL-DEFINED**
Interventions should be present-focused and action-oriented, targeting specific and well defined problems.
　　HĀNGAI KI NAIANEI, WHAKAHAU ME TE TINO MĀRAMA
Me mārama, me te hāngai tonu ki naianei ngā wawaotanga, kia tōtika te whakahau hei whakatika i ngā whakararu.

5.　　**TARGETING SEQUENCES** Interventions should target sequences of behaviour within or between multiple systems that maintain the identified problems.
　　TAKAPIRI KI NGĀ RAUPAPATANGA
Me takapiri ngā wawaotanga ki ngā raupapatanga ō te whanonga, i waenganui, i roto rānei ō ngā huihuinga pūkenga, e whakamau ana ki ngā raruraru i kitea.

6.　　**DEVELOPMENTALLY APPROPRIATE** Interventions should be developmentally appropriate and fit the developmental needs of the youth.
　　KIA TIKA TE WHAKAWHANAKE Kia ū ngā uru pai ki ngā wawaotanga, kia tika ai te whakawhanake i te rangatahi, hei whakapakari me te tautoko i tōna whanaketanga.

7.　　**CONTINUOUS EFFORT** Interventions should be designed to require daily or weekly effort by family members.
　　KIA Ū, KIA KAHA TONU Hangaia ngā wawaotanga, kia ū ai te whānau ki te whakamahi ia rā, ia wiki.

8.　　**EVALUATION AND ACCOUNTABILITY** Intervention efficacy is evaluated continuously from multiple perspectives with providers assuming accountability for overcoming barriers to successful outcomes.
　　AROTAKENGA ME NGĀ PAPA Ka arotakenga ngā wawaotanga i ngā wā katoa, mai i ngā huihuinga pūkenga i whakamahia katoatia, mā te ratonga hapori e whakatau ngā tauārai kia puta ai ngā huanga pai.

9.　　**GENERALIZATION** Interventions should be designed to promote treatment generalization and long-term maintenance of therapeutic change by empowering caregivers to address family members' needs across multiple systemic contexts.
　　NGĀ MŌHIOTANGA WHĀNUI Me hanga ngā wawaotanga whānui hei hāpai i ngā mahi atawhai hei whakapakari i ngā kaitiaki, ki te tautoko me te whakamana i ngā hiahia ō te whānau.

APPENDIX THREE

Family/Whanau/Caregiver Questionnaire

Date:_____
Family Code:_____

1) Person completing the questionnaire is young persons':
    Mother   Father Grandmother   Grandfather   Aunt   Uncle   Older Sibling   Caregiver

2) How hopeful are you that RYOP is going to improve your family's situation?
    Not comfortable at all   A little   Some   Quite Comfortable   Very Comfortable

3) As you begin this program which of the following aspects regarding your young person's   behaviour and family
    situation are you most concerned about? Please choose one of the following responses to each of the following:
    **1= Extremely Concerned   2= Quite Concerned 3=Undecided   4=A little Concerned 5=Not Concerned at
    all**

Youth's behaviour e.g., ability to communicate and manage anger	
Your parenting skills	
Young person's school/work performance	
Young person's ability to get along with peers	
Family communication	
Parent's wellbeing (e.g. stress levels, health)	
Family togetherness (e.g. cohesion, unity)	
Young person's wellbeing (e.g., stress, health)	

4) Are there any other areas of concern?
                        Yes/No
5) If so, please comment further
_____
_____

6) How long has your family been experiencing the difficulties you are receiving support for?
    Less than a year   1-2 years   2-3 years   more than 4 years

7) During this time how many agencies have been involved in the care of your young person?
    None   1-2   2-4   5-6   more than 7
8) How helpful have you found these agencies?
    Not helpful at all   a little   some   quite helpful   very helpful
9) How urgent do you see the need for change?
    Not urgent at all   slightly urgent   some what   quite urgent   very urgent
10) How motivated are you to work for change?
    Not motivated   a little   some what   quite motivated   very motivated
11) How much are you willing to do for change?
    Nothing   a little   some   quite a lot   anything
12) Who do you think needs to do the changing?
    Parent's   young person   whole family/whanau
13) Do you know where your youth is 90% of the time?

    No   Sometimes   Most of the time Often   All the time
14) Do you know who your youth is spending time with 90% of the time?

    No   Sometimes   Most of the time Often   All the time
15) Has anybody else in the family been in trouble with the police?   **Yes/No**

If yes then who_____

16) Does anyone in the family have a history of substance use?   **Yes/No**

If yes then who _____Has this person sort any help for this? E.G AA?

_____

Family/Whanau/Caregiver Questionnaire

Post treatment questionnaire
Date:_____
Family Code:_____

1) Person completing the questionnaire is young persons':
   Mother   Father   Grandmother   Grandfather   Aunt   Uncle   Older Sibling   Caregiver

2) How much has being on the programme improved your family's situation?
   Not at all   A little   Some Quite a bit   Very Much

3) Now that you have completed this program which of the following aspects regarding your young person's behaviour and family situation are you still concerned about? Please choose one of the following responses to each of the following:
   1= Extremely Concerned   2= Quite Concerned 3=Undecided   4=A little Concerned 5=Not Concerned at all

Youth's behaviour e.g., ability to communicate and mange anger	
Your parenting skills	
Young person's school/work performance	
Young person's ability to get along with peers	
Family communication	
Parent's wellbeing (e.g. stress levels, health)	
Family togetherness (e.g. cohesion, unity)	
Young person's wellbeing (e.g., stress, health)	

4) Are there any other areas of concern?
   Yes/No
5) If so, please comment further
   _____
   _____

6) Has being involved in the programme helped you to deal with your problems more effectively?
   No, things are worse   No, it didn't help   Yes, it helped a little   Yes it helped a lot

7) Did the programme do what you wanted it to do?
   Not at all   A little   Some Quite a bit   Very Much

8) What part of the programme were you most satisfied with?
   _____

9) What part of the programme were you least satisfied with?
   _____
   _____

10) What do you think could be improved about the programme to help you more?
   _____
   _____

11) Do you know where your youth is 90% of the time?

   No   Sometimes   Most of the time Often   All the time

12) Do you know who your youth is spending time with 90% of the time?

No   **Sometimes**   **Most of the time**   **Often All the time**

Working Alliance Inventory – Short Form (WAI-S; Tracey & Kokotovic, 1989)

1=Never   2=Rarely   3=Occasionally   4=Sometimes   5=Often   6=Very Often

7=Always

1) _____ and I agree about the things I will need to do in therapy   1   2   3   4   5   6   7
to help improve my situation.

2) What I am doing in therapy gives me new ways of looking at my   1   2   3   4   5   6   7
problem.

3) I believe _____ likes me.   1   2   3   4   5   6   7

4) _____ does not understand what I am trying to accomplish in   1   2   3   4   5   6   7
therapy.

5) _____ perceives accurately what my goals are.   1   2   3   4   5   6   7

6) I am confident in _____ ability to help me   1   2   3   4   5   6   7

7) I feel that _____ appreciates me.   1   2   3   4   5   6   7

8) We agree on what is important for me to work on.   1   2   3   4   5   6   7

9) _____ and I trust one another.   1   2   3   4   5   6   7

10) _____ and I have different ideas on what my problems are.   1   2   3   4   5   6   7

11) We have established a good understanding of the kind of changes that   1   2   3   4   5   6   7
would be good for me.

12) I believe the way we are working with my problem is correct   1   2   3   4   5   6   7

APPENDIX FOUR

Family Relationship Characteristics (Tolan et al, 1997)

1) Parents should teach their children what they need to know to "make it" in the world.
   Not true at all   a little true   some what true quite a bit true   always true

2) Children should always talk to their parents with respect.
   Not true at all   a little true   some what true quite a bit true   always true

3) Family togetherness is very important
   Not true at all   a little true   some what true quite a bit true   always true

4) No matter what, family members should stick together.
   Not true at all   a little true   some what true quite a bit true   always true

5) Kids should value a close relationship with their family and not have to be asked to spend time at home.
   Not true at all   a little true   some what true quite a bit true   always true

6) Family members should be able to "speak their minds" with one another.
   Not true at all   a little true   some what true quite a bit true   always true

7) Parents should expect kids_____'s age to do some work around the house.
   Not true at all   a little true   some what true quite a bit true   always true

8) Kids_____'s age should call home if they think they might be late.
   Not true at all   a little true   some what true quite a bit true   always true

9) Kids should obey their parents even when they don't agree.
   Not true at all   a little true   some what true quite a bit true   always true

10) Kids_____'s age should clean up for themselves without having to be told.
    Not true at all   a little true   some what true quite a bit true   always true

11) We can easily think of things to do together as a family.
    Not true at all   a little true   some what true quite a bit true   always true

12) Family members feel very close to each other.
    Not true at all   a little true   some what true quite a bit true   always true

13) Family members always ask each other for help.
    Not true at all   a little true   some what true quite a bit true   always true

14) I am available when others in the family want to talk to me.
    Not true at all   a little true   some what true quite a bit true   always true

15) Family members like to spend free time with each other.
    Not true at all   a little true   some what true quite a bit true   always true

16) I listen to what other family members have to say, even when I disagree.
    Not true at all   a little true   some what true quite a bit true   always true

17) It's okay to skip school/work/course every once in awhile.
    Not true at all   a little true   some what true quite a bit true   always true

18) It's okay to fight if the other guy says bad things about you and your family.
    Not true at all   a little true   some what true quite a bit true   always true

19) It's okay to steal something from someone who is rich and can easily replace it.
    Not true at all   a little true   some what true quite a bit true   always true

20) It's okay to lie to someone if it will keep you out of trouble with them.
Not true at all   a little true   some what true quite a bit true   always true

21) My family expects too much of me.
Not true at all   a little true   some what true quite a bit true   always true

22) I am tired of being blamed for family problems.
Not true at all   a little true   some what true quite a bit true   always true

23) My family doesn't let me be myself.
Not true at all   a little true   some what true quite a bit true   always true

24) I often don't understand what other family members are saying.
Not true at all   a little true   some what true quite a bit true   always true

25) If someone in the family has upset me, I keep it to myself.
Not true at all   a little true   some what true quite a bit true   always true

26) I have trouble accepting someone else's answer to a family problem.
Not true at all   a little true   some what true quite a bit true   always true

27) It is hard to identify the leaders in our family.
Not true at all   a little true   some what true quite a bit true   always true

28) I sometimes use feeling sick to get out of doing something.
Not true at all   a little true   some what true quite a bit true   always true

29) The children make the decisions in our family.
Not true at all   a little true   some what true quite a bit true   always true

30) I sometimes get headaches or other aches and pains after I fight with my family.
Not true at all   a little true   some what true quite a bit true   always true

31) My family doesn't care about me.
Not true at all   a little true   some what true quite a bit true   always true

32) It is hard to tell who does which household chores.
Not true at all   a little true   some what true quite a bit true   always true

33) My family and I have the same views about what is right and wrong.
Not true at all   a little true   some what true quite a bit true   always true

34) My family knows what I mean when I say something.
Not true at all   a little true   some what true quite a bit true   always true

35) My family and I have the same views about being successful.
Not true at all   a little true   some what true quite a bit true   always true

APPENDIX FIVE

CONSENT FORM

I/We have read and I/We understand the information sheet for volunteers taking part in the research study designed to focus on unique family behaviours. I have had the opportunity to discuss this study with Joanne. I/We am satisfied with the answers I/We received.

I/We have had the opportunity to use whanau/family support or a friend to help ask me questions and understand the research.

I/We understand that taking part in this study is voluntary (my/family choice) and that I/We may withdraw from the study at any time and this will not affect the support we receive from the Reducing Youth Offending Team.

I/We understand that my participation in this study is confidential and that no material which could identify me will be used in any reports on this research study. I/We understand the reward provisions for this study and I/We have had time to consider whether to take part.

I/We wish to receive information concerning the results of this research   YES/NO

I/We _____ (full name) hereby consent to take part in this study.

Signed: _____   Dated: _____

Please indicate which reward voucher you wish me to send you:

$15.00 petrol voucher   [   ]

        OR

$15.00 movie voucher   [   ]

        OR

$15.00 grocery voucher ⬜

INFORMATION SHEET

Joanne Yarwood
MSc Student
University of Canterbury
364 2987 ext 3020

Familial factors that influence the effectiveness of Multisystemic Therapy (MST) with serious youth offenders in New Zealand.

My name is Jo and I am a student at Canterbury University, studying the impact of family behaviours on youth offending. I also work with your RYOP caseworker and call you once a month to ask you some questions.

When I spoke to you last week you indicated a desire to know more about my research. The aim of my research is to find out if there are similarities between the families that take part in the Reducing Youth Offending Programme and therefore receive support from our caseworkers. I aim to interview about 60 families at two different times, when they begin working with their RYOP caseworker and then again when the family finishes working with their caseworker.

I asked you the first set of questions last week when I called you and I will ask the second set of questions when I call you the very last time. Your family will be given a number so that all information concerning them is kept completely confidential and to make sure that none of your answers can identify you in any of the reports I write.

After June 2006 I will be writing up the results, if you wish to obtain a copy of these then please indicate on the enclosed consent form.

As an incentive for taking part in my research I am offering you the choice of either a $15 petrol voucher or a $15 movie voucher or a $15 grocery voucher. You will receive this when the consent form has been completed and returned to me in the envelope provided. You will also receive another voucher when we complete the second questionnaire. Please indicate on the consent form which voucher you wish me to send you.

Thank you very much for your time and I look forward to speaking with you next time.

Jo

APPENDIX SIX

Ref: HEC 2005/64

05 December 2008

Joanne Amy Yarwood
Psychology
UNIVERSITY OF CANTERBURY

Dear Joanne Amy Yarwood

The Human Ethics Committee advises that your research proposal "Familial factors that influence the effectiveness of Multisystemic Therapy (MST) with serious youth offenders in New Zealand" has been considered and approved.

Yours sincerely

Dr Catherine Moran
Chair, Human Ethics Committee

APPENDIX SEVEN

10 May 2006

Joanne Yarwood
1/34 Browning Street
Sydenham
Christchurch

Dear Joanne

7.0 **VARIATION TO EMPLOYMENT AGREEMENT**

This letter is to confirm our discussions of 10 May 2006 relating to changes in the terms and condition of your Employment Agreement.

Details of the changes we have agreed to are detailed in the table below.

8.0 EXISTING TERMS AND CONDITIONS	*Variation to Terms and Conditions*
13.1 Any information which you acquire either directly or indirectly as a result of you employment with us is deemed to be confidential and is to be treated in the strictest confidence. After termination of your employment you will still not be able to use or pass on any such information except where the information is publicly known. This includes information, strategies, processes, materials, costs or secrets relating to any aspect of our business or to our customers, franchises, associated companies or subcontractors.	13.1.1 Exception to 13.1 is only in relation to data generated via evaluation of MST outcomes for use in Joanne's Master's thesis. On receipt of ethics approval from the appropriate bodies Joanne will have access to all MST adherence and outcome data generated by New Zealand based MST therapists and collected during the period of this contract for the purpose of completing her Masters thesis; acknowledgement of MST NZ data will be provided accordingly. After cessation of this contract Joanne will only be allowed to represent MST New Zealand or to gain access to MST adherence and outcome data if prior permission is obtained through an established representative of MST NZ. 13.1.2 Publication of research Joanne will have the opportunity to publish research outcomes (as part of or in addition to her Masters research), pending all necessary ethical/research approvals being granted.
First Schedule Position Description Employment Services Addition	9) Access to MST families Joanne Yarwood has approval to invite MST families to participate in a study that will involve the administration of questionnaires by Joanne. This will be collected in accordance with the ethics approval that she has received.
First Schedule Position Description	National Director

Employment Services	
Reports to:	

These changes will be effective from [*insert date*].

Please sign one copy of this letter to confirm your acceptance of this variation to the terms and conditions of your Employment Agreement and return to me by [*insert date*]. Once I have received your acceptance I will forward the necessary documentation onto the Human Resources for internal processing.

If there is anything you need clarified or wish to discuss please do not hesitate to contact me.

Yours faithfully

Justine Harris
National Director/CE
MST NZ

I confirm that I have agreed to the above variation in the terms and conditions of my Employment Agreement.

8.1 SIGNED:_____   **DATED:_____/_____/_____**

Joanne Yarwood

cc Personal File

APPENDIX NINE

A service of the Ministry of Social Development

17 May 2007

Joanne Yarwood
1/34 Browning Street
Sydenham
Christchurch

Dear Joanne,

Re: Research access for 'Familial Factors that Influence the Effectiveness of Multisystemic Treatment (MST) with Serious Youth Offenders in New Zealand'

Thank you for providing a copy of your draft thesis to the Research Access Committee. The report was reviewed internally, and the main feedback from the reviewer is outlined below.

The reviewer commented positively on the comprehensive review of international and New Zealand research, and considered it a good summary of relevant research. It was noted that your discussion of the policy implications and implementation was somewhat limited, and it was suggested that an extension of this area may be useful – if not in the current report, then possibly at a later stage.

It was also noted that it is usual to acknowledge agencies such as the Department of Corrections and Child, Youth and Family, and the participants in the study – these appear to be omitted in the acknowledgements. In section 3.2, please also acknowledge Child, Youth and Family and the Research Access Committee approval which facilitated access.

A summary of specific comments is also attached. These are intended as suggestions, rather than required amendments.

We look forward to receiving a copy of the final thesis.

Kind regards,

Rebecca Williamson
Coordinator
Research Access Committee

Table 18

		FRC 1	FRC 2	FRC 3	FRC 4	FRC 5	FRC 6	FRC 7	FRC 8	FRC 9	FRC 10	FRC 11	FRC 12	FRC 13	FRC 14
FRC 1	Pearson Correlation	a													
FRC 2	Pearson Correlation	a	1												
FRC 3	Pearson Correlation	a	a												
FRC 4	Pearson Correlation	a	.322	a	1										
FRC 5	Pearson Correlation	a	-.204	a	-.207	1									
FRC 6	Pearson Correlation	a	-.234	a	.621	.225	1								
FRC 7	Pearson Correlation	a	-.091	a	-.161	.496	.234	1							
FRC 8	Pearson Correlation	a	-.174	a	.000	.726**	.149	.522	1						
FRC 9	Pearson Correlation	a	-.091	a	.322	.146	.701	.273	.058	1					
FRC 10	Pearson Correlation	a	-.091	a	-.161	.496	.234	1.000**	.522	.273	1				
FRC 11	Pearson Correlation	a	-.223	a	.395	.500	.667	.445	.426	.445	.445	1			
FRC 12	Pearson Correlation	a	-.232	a	.557	.435	.850**	.364	.317	.695	.364	.730**	1		
FRC 13	Pearson Correlation	a	-.308	a	.273	.578	.565	.220	.421	.484	.220	.808**	.753**	1	
FRC 14	Pearson Correlation	a	-.197	a	-.175	.443	-.169	-.197	.378	-.197	-.197	.161	-.072	.477	1
FRC 15	Pearson Correlation	a	-.039	a	.035	.441	.504	.432	.225	.510	.432	.721**	.457	.608	.000
FRC 16	Pearson Correlation	a	-.224	a	.529	.359	.703	.075	.333	.572	.075	.670	.842**	.902**	.270
FRC 17	Pearson Correlation	a	-.408	a	-.145	-.288	.070	-.408	-.364	.353	-.408	.000	.030	.197	.059
FRC 18	Pearson Correlation	a	-.234	a	-.414	-.524	-.400	-.701	-.745**	-.234	-.701	-.572	-.510	-.339	.000
FRC 19	Pearson Correlation	a	a	a	a	a	a	a	a	a	a	a	a	a	a
FRC 20	Pearson Correlation	a	.165	a	-.059	-.138	-.255	-.629	-.190	.033	-.629	-.162	-.301	-.016	.359
FRC 21	Pearson Correlation	a	-.380	a	-.568	-.160	-.463	-.140	-.268	-.220	-.140	-.539	-.270	-.330	-.043
FRC 22	Pearson Correlation	a	-.070	a	-.217	-.629	-.450	-.491	-.537	-.210	-.491	-.558	-.370	-.390	-.381
FRC 23	Pearson Correlation	a	-.196	a	-.557	-.441	-.504	-.432	-.626	-.432	-.432	-.625	-.672	-.665	-.170
FRC 24	Pearson Correlation	a	-.226	a	-.343	.054	-.062	.315	.232	.121	.315	-.237	-.097	-.129	.158
FRC 25	Pearson Correlation	a	-.085	a	-.265	-.109	-.438	.171	-.163	-.597	.171	-.052	-.217	-.227	-.278
FRC 26	Pearson Correlation	a	-.082	a	.145	-.601	-.210	-.734**	-.364	-.408	-.734**	-.599	-.445	-.592	-.059
FRC 27	Pearson Correlation	a	.165	a	-.763**	-.138	-.765**	-.232	-.444	-.496	-.232	-.649	-.807**	-.592	.072
FRC 28	Pearson Correlation	a	-.629	a	-.059	-.138	.425	.165	-.190	.430	.165	.162	.422	.176	-.503
FRC 29	Pearson Correlation	a	.135	a	-.837**	.043	-.693	.135	-.258	-.405	.135	-.495	-.687	-.522	.000
FRC 30	Pearson Correlation	a	.327	a	.000	.035	-.187	-.327	-.070	-.254	-.327	-.445	-.079	-.053	.079
FRC 31	Pearson Correlation	a	.255	a	-.361	-.409	-.655	-.357	-.293	-.561	-.357	-.874**	-.798**	-.764**	.111
FRC 32	Pearson Correlation	a	a	a	a	a	a	a	a	a	a	a	a	a	a
FRC 33	Pearson Correlation	a	-.117	a	.506	.511	.733**	.487	.418	.554	.487	.945**	.873**	.820**	.036
FRC 34	Pearson Correlation	a	-.069	a	.736**	.111	.652	-.069	.044	.392	-.069	.621	.730**	.502	-.150
FRC 35	Pearson Correlation	a	-.051	a	.361	.474	.567	.357	.423	.425	.357	.915**	.538	.666	.184

		FRC 1	FRC 2	FRC 3	FRC 4	FRC 5	FRC 6	FRC 7	FRC 8	FRC 9	FRC 10	FRC 11	FRC 12	FRC 13	FRC 14
YJ Post b	Pearson Correlation	a	.316	a	.254	.027	.224	.316	-.316	.073	.316	.559	.316	.258	-.339
YRS c	Pearson Correlation	a	-.740	a	-.340	1.436	.315	.143	.364	-.073	.143	.278	.014	.192	.401
Con b	Pearson Correlation	a	.125	a	.229	.300	.354	.125	.250	-.229	.125	.619	.125	.408	.229

Table 18 continued

		FRC 15	FRC 16	FRC 17	FRC 18	FRC 19	FRC 20	FRC 21	FRC 22	FRC 23	FRC 24	FRC 25	FRC 26	FRC 27	FRC 28
FRC 15	Pearson Correlation	1													
FRC 16	Pearson Correlation	.483	1												
FRC 17	Pearson Correlation	.247	.245	1											
FRC 18	Pearson Correlation	-.303	-.319	629.	1										
FRC 19	Pearson Correlation	a	a	a	a	1									
FRC 20	Pearson Correlation	.071	-.027	.624	.425	a	1								
FRC 21	Pearson Correlation	-.372	-.279	.449	.566	a	.168	1							
FRC 22	Pearson Correlation	-.348	-.230	.503	.720**	a	.204	.586	1						
FRC 23	Pearson Correlation	-.441	-.741**	.247	.807**	a	.186	.527	.484	1					
FRC 24	Pearson Correlation	-.052	-.099	.196	-.062	a	.062	.485	-.149	-.010	1				
FRC 25	Pearson Correlation	-.203	-.350	-.230	.110	a	-.404	.319	.378	.313	-.318	1			
FRC 26	Pearson Correlation	-.740**	-.379	.122	.489	a	.267	.233	.377	.528	.022	-.077	1		
FRC 27	Pearson Correlation	-.272	-.788**	.030	.595	a	.227	.430	.281	.786**	.062	.248	.148	1	
FRC 28	Pearson Correlation	.243	.299	.505	.255	a	-.301	.342	.434	.100	.062	.155	-.089	-.301	1
FRC 29	Pearson Correlation	-.116	-.775**	-.121	.346	a	.049	.386	.104	.640	.180	.316	-.121	.933**	-.245
FRC 30	Pearson Correlation	-.141	.149	-.033	.187	a	.119	.264	.294	-.094	.029	-.051	.098	.119	-.119
FRC 31	Pearson Correlation	-.682	-.711**	-.137	.393	a-	.204	.393	.196	.550	.421	-.048	.594	.649	-.464
FRC 32	Pearson Correlation	a	a	a	a	a	a	a	a	a	a	a	a	a	a
FRC 33	Pearson Correlation	.645	.757**	-.105	-.646	a	-.229	-.535	-.517	-.732**	-.291	-.063	-.647	-.739**	.214
FRC 34	Pearson Correlation	.149	.587	-.062	-.296	a	-.176	-.472	-.160	-.388	-.645	.000	-.062	-.680	.227
FRC 35	Pearson Correlation	.682	.488	-.107	-.567	a	-.056	-.752**	-.629	-.550	-.367	-.191	-.533	-.501	-.056
YJ Post b	Pearson Correlation	.494	.113	-.271	-.224	a	-.447	-.417	-.158	-.130	-.627	.636	-.575	-.060	.060
YRS c	Pearson Correlation	.251	.008	.088	.013	a	-.154	-.077	-.435	.182	.330	-.246	.133	-.035	.218
Con b	Pearson Correlation	.688	.286	-.300	-.354	a	-.177	-.867**	-.500	-.380	-.419	.000	-.316	-.236	-.189

Table 18 continued

		FRC 29	FRC 30	FRC 31	FRC 32	FRC 33	FRC 34	FRC 35	YJ Post or Convicted	YRS	Convicted/Serious
FRC 29	Pearson Correlation	1									
FRC 30	Pearson Correlation	.000	1								
FRC 31	Pearson Correlation	.529	.305	1							
FRC 32	Pearson Correlation	a	a	a	a						
FRC 33	Pearson Correlation	-.572	-.301	-.912**	a	1					
FRC 34	Pearson Correlation	-.718**	-.248	-.737**	a	.728**	1				
FRC 35	Pearson Correlation	-.378	-.549	-.771**	a	.837**	.582	1			
YJ Post or Convicted b	Pearson Correlation	.060	-.178	-.550	a	.600	.446	.567	1		
YRS c	Pearson Correlation	.020	-.442	-.069	a	.048	-.138	.350	-.232	1	
Convicted/Serious b	Pearson Correlation	-.189	.056	-.395	a	.474	.184	.800**	.408	.345	1

** Correlation is significant at the 0.01 level

a Cannot be computed because at least one of the variables is constant

b Please note N=9

c Please note N=8

Table 19

		FRC 1	FRC 2	FRC 3	FRC 4	FRC 5	FRC 6	FRC 7	FRC 8	FRC 9	FRC 10	FRC 11	FRC 12	FRC 13	FRC 14
FRC 1	Pearson Correlation	a													
FRC 2	Pearson Correlation	a	1												
FRC 3	Pearson Correlation	a	a	a											
FRC 4	Pearson Correlation	a	.322	a	1										
FRC 5	Pearson Correlation	a	-.204	a	-.207	1									
FRC 6	Pearson Correlation	a	-.234	a	.621	.225	1								
FRC 7	Pearson Correlation	a	-.091	a	-.161	.496	.234	1							
FRC 8	Pearson Correlation	a	-.174	a	.000	.726**	.149	.522	1						
FRC 9	Pearson Correlation	a	-.091	a	.322	.146	.701	.273	.058	1					
FRC 10	Pearson Correlation	a	-.091	a	-.161	.496	.234	1.000**	.522	.273	1				
FRC 11	Pearson Correlation	a	-.223	a	.395	.500	.667	.445	.426	.445	.445	1			
FRC 12	Pearson Correlation	a	-.232	a	.557	.435	.850**	.364	.317	.695	.364	.730**	1		
FRC 13	Pearson Correlation	a	-.308	a	.273	.578	.565	.220	.421	.484	.220	.808**	.753**	1	
FRC 14	Pearson Correlation	a	-.197	a	-.175	.443	-.169	-.197	.378	-.197	-.197	.161	-.072	.477	1
FRC 15	Pearson Correlation	a	-.039	a	.035	.441	.504	.432	.225	.510	.432	.721**	.457	.608	.000
FRC 16	Pearson Correlation	a	-.224	a	.529	.359	.703	.075	.333	.572	.075	.670	.842**	.902**	.270
FRC 17	Pearson Correlation	a	-.408	a	-.145	-.288	.070	-.408	-.364	.535	-.408	.000	.030	.197	.059
FRC 18	Pearson Correlation	a	-.234	a	-.414	-.524	-.400	-.701	-.745**	-.234	-.701	-.572	-.510	-.339	.000
FRC 19	Pearson Correlation	a	a	a	a	a	a	a	a	a	a	a	a	a	a
FRC 20	Pearson Correlation	a	.165	a	-.059	-.138	-.255	-.629	-.190	.033	-.629	-.162	-.301	-.016	.359
FRC 21	Pearson Correlation	a	-.380	a	-.568	-.160	-.463	-.140	-.268	-.220	-.140	-.539	-.270	-.300	-.043
FRC 22	Pearson Correlation	a	-.070	a	-.217	-.629	-.450	-.491	-.537	-.210	-.491	-.558	-.370	-.390	-.381
FRC 23	Pearson Correlation	a	-.196	a	-.557	-.441	-.504	-.432	-.676	-.432	-.432	-.625	-.672	-.665	-.170
FRC 24	Pearson Correlation	a	-.266	a	-.343	.054	-.062	.315	.232	.121	.315	-.237	-.097	-.129	.158
FRC 25	Pearson Correlation	a	-.085	a	-.265	-.109	-.438	.171	-.163	-.597	.171	-.052	-.217	-.227	-.278
FRC 26	Pearson Correlation	a	-.082	a	.145	-.601	-.210	-.734**	-.364	-.408	-.734**	-.599	-.445	-.592	-.059
FRC 27	Pearson Correlation	a	.165	a	-.763**	-.138	-.765**	-.232	-.444	-.496	-.232	-.649	-.807**	-.592	.072
FRC 28	Pearson Correlation	a	-.629	a	-.059	-.138	.425	.165	-.190	.430	.165	.162	.422	.176	-.503
FRC 29	Pearson Correlation	a	.135	a	-.837**	.043	-.693	.135	-.258	-.405	.135	-.495	-.687	-.522	.000
FRC 30	Pearson Correlation	a	.327	a	.000	.035	-.187	-.327	-.070	-.254	-.327	-.445	-.079	-.053	.079
FRC 31	Pearson Correlation	a	.255	a	-.361	-.409	-.655	-.357	-.293	-.561	-.357	-.874**	-.798**	-.764**	.111
FRC 32	Pearson Correlation	a	a	a	a	a	a	a	a	a	a	a	a	a	a
FRC 33	Pearson Correlation	a	-.117	a	.506	.511	.733**	.487	.418	.554	.487	.945**	.873**	.820**	.036
FRC 34	Pearson Correlation	a	-.069	a	.736**	.111	.652	-.069	.044	.392	-.069	.621	.730**	.502	-.150
FRC 35	Pearson Correlation	a	-.051	a	.361	.474	.567	.357	.423	.425	.357	.915**	.538	.666	.184
		FRC 1	FRC 2	FRC 3	FRC 4	FRC 5	FRC 6	FRC 7	FRC 8	FRC 9	FRC	FRC 11	FRC	FRC	FRC 14

											10		12	13	
YJ Post b	Pearson Correlation	a	.316	a	.254	.027	.224	.316	-.316	.073	.316	.559	.316	.258	-.399
YRS c	Pearson Correlation	a	-.740	a	-.340	.436	.315	.143	.364	-.073	.143	.278	.014	.192	.401
Con b	Pearson Correlation	a	.125	a	.229	.300	.354	.125	.250	-.229	.125	.619	.125	.408	.229

Table 19 continued

		FRC 15	FRC 16	FRC 17	FRC 18	FRC 19	FRC 20	FRC 21	FRC 22	FRC 23	FRC 24	FRC 25	FRC 26	FRC 27	FRC 28
FRC 15	Pearson Correlation	1													
FRC 16	Pearson Correlation	.483	1												
FRC 17	Pearson Correlation	.247	.245	1											
FRC 18	Pearson Correlation	-.303	-.319	.629	1										
FRC 19	Pearson Correlation	a	a	a	a	a									
FRC 20	Pearson Correlation	.071	-.027	.624	.425	a	1								
FRC 21	Pearson Correlation	-.372	-.279	.449	.566	a	.168	1							
FRC 22	Pearson Correlation	-.348	-.230	.503	.720**	a	.204	.586	1						
FRC 23	Pearson Correlation	-.441	-.741**	.247	.807**	a	.186	.527	.484	1					
FRC 24	Pearson Correlation	-.052	-.099	.196	-.062	a	.062	.485	-.149	-.010	1				
FRC 25	Pearson Correlation	-.203	-.350	-.230	.110	a	-.404	.319	.378	.313	-.318	1			
FRC 26	Pearson Correlation	-.740**	-.379	.122	.489	a	.267	.233	.377	.528	.022	-.077	1		
FRC 27	Pearson Correlation	-.272	-.788**	.030	.595	a	.277	.430	.281	.786**	.062	.248	.148	1	
FRC 28	Pearson Correlation	.243	.299	.505	.255	a	-.301	.342	.434	.100	.062	.155	-.089	-.301	1
FRC 29	Pearson Correlation	-.116	-.775**	-.121	.346	a	.049	.386	.104	.640	.180	.316	-.121	.933**	-.245
FRC 30	Pearson Correlation	-.141	.149	-.033	.187	a	.119	.264	.294	-.094	.029	-.051	.098	.119	-.119
FRC 31	Pearson Correlation	-.682	-.711**	-.137	.393	a	.204	.393	.196	.550	.421	-.048	.594	.649	-.464
FRC 32	Pearson Correlation	a	a	a	a	a	a	a	a	a	a	a	a	a	a
FRC 33	Pearson Correlation	.645	.757**	-.105	-.646	a	-.299	-.535	-.517	-.732**	-.291	-.063	-.647	-.739**	.214
FRC 34	Pearson Correlation	.149	.587	-.062	-.296	a	-.176	-.472	-.160	-.388	-.645	.000	-.062	-.680	.227
FRC 35	Pearson Correlation	.682	.488	-.107	-.567	a	-.056	-.752**	-.629	-.550	-.367	-.191	-.533	-.501	-.056
YJ Post b	Pearson Correlation	.494	.113	-.271	-.224	a	-.447	-.417	-.158	-.130	-.627	.636	-.575	-.060	.060
YRS c	Pearson Correlation	.251	.008	.088	.013		-.154	-.077	-.435	.182	.330	-.246	.133	-.035	.218
Con b	Pearson Correlation	.688	.286	-.300	-.354		-.177	-.867**	-.500	-.380	-.419	.000	-.316	-.236	-.189

Table 19 continued

		FRC 29	FRC 30	FRC 31	FRC 32	FRC 33	FRC 34	FRC 35	YJ Post or Convicted	YRS	Convicted/Serious
FRC 29	Pearson Correlation	1									
FRC 30	Pearson Correlation	.000	1								
FRC 31	Pearson Correlation	.529	.305	1							
FRC 32	Pearson Correlation	a	a	a	a						
FRC 33	Pearson Correlation	-.572	-.301	-.912**	a	1					
FRC 34	Pearson Correlation	-.718**	-.249	-.737**	a	.728**	1				
FRC 35	Pearson Correlation	-.378	-.549	-.771**	a	.837**	.582	1			
YJ Post or Convicted b	Pearson Correlation	.060	-.178	-.550	a	.600	.466	.567	1		
YRS c	Pearson Correlation	.020	-.442	-.069	a	.048	-.138	.350	-.232	1	
Convicted/Serious b	Pearson Correlation	-.189	.056	-.395	a	.474	.184	.800**	.408	.345	1

** Correlation is significant at the 0.01 level

a Cannot be computed because at least one of the variables is constant

b Please note N=9

c Please note N=8

Table 20

		FRC 1	FRC 2	FRC 3	FRC 4	FRC 5	FRC 6	FRC 7	FRC 8	FRC 9	FRC 10	FRC 11	FRC 12	FRC 13	FRC 14
FRC 1	Pearson Correlation	1													
FRC 2	Pearson Correlation	.147	1												
FRC 3	Pearson Correlation	a	a	a											
FRC 4	Pearson Correlation	.252	.542	a	1										
FRC 5	Pearson Correlation	.231	.665	a	.278	1									
FRC 6	Pearson Correlation	.144	-.179	a	.323	-.363	1								
FRC 7	Pearson Correlation	.384	-.155	a	.553	-.244	.568	1							
FRC 8	Pearson Correlation	.339	.433	a	.799**	.222	.481	.515	1						
FRC 9	Pearson Correlation	.190	.243	a	.195	.273	-.357	-.038	.156	1					
FRC 10	Pearson Correlation	-.135	.677	a	.511	.310	.022	.143	.640	.100	1				
FRC 11	Pearson Correlation	.418	.190	a	.343	.160	.204	.486	.658	.123	.421	1			
FRC 12	Pearson Correlation	.032	-.258	a	.206	-.356	.559	.578	.510	-.257	.150	.713**	1		
FRC 13	Pearson Correlation	-.205	.000	a	-.252	.000	-.083	-.216	.000	-.378	.172	.449	.411	1	
FRC 14	Pearson Correlation	.147	-.083	a	-.241	.210	-.179	-.155	-.192	-.460	-.123	.190	-.018	.698**	1
FRC 15	Pearson Correlation	.275	.250	a	.502	.052	.463	.559	.811**	.061	.519	.890**	.817**	.262	-.156
FRC 16	Pearson Correlation	.190	.522	a	.528	.232	.149	.250	.646	-.015	.485	.681	.587	.375	-.060
FRC 17	Pearson Correlation	-.051	.155	a	-.280	.350	-.028	-.180	.067	.201	.229	.309	.145	.433	.155
FRC 18	Pearson Correlation	.128	.184	a	-.333	.255	-.339	-.453	-.563	.128	-.487	-.361	-.489	.000	.184
FRC 19	Pearson Correlation	a	a	a	a	a	a	a	a	a	a	a	a	a	a
FRC 20	Pearson Correlation	-.064	-.433	a	-.122	-.222	.189	.067	-.278	.047	-.640	.000	.181	.134	.192
FRC 21	Pearson Correlation	-.252	.241	a	-.011	.051	.237	-.189	-.122	-.322	.067	-.343	-.206	.168	.241
FRC 22	Pearson Correlation	-.437	-.360	a	-.567	-.587	-.036	-.495	-.507	-.042	-.393	-.525	-.121	.121	-.173
FRC 23	Pearson Correlation	-.270	-.332	a	-.726**	-.433	-.249	-.467	-.767**	-.011	-.491	-.606	-.360	-.232	-.332
FRC 24	Pearson Correlation	.147	-.444	a	-.241	-.245	.208	.181	-.401	.009	-.656	-.507	-.178	-.698**	-.444
FRC 25	Pearson Correlation	-.051	-.097	a	-.189	-.179	.152	.230	-.369	-.371	-.143	-.353	-.133	-.325	-.097
FRC 26	Pearson Correlation	.319	-.258	a	-.085	-.246	.100	.229	-.243	.160	-.380	-.427	-.326	-.523	-.258
FRC 27	Pearson Correlation	-.074	-.307	a	.050	-.567	.269	.171	-.248	.184	-.453	-.560	-.200	-.600	-.506
FRC 28	Pearson Correlation	.118	.151	a	.121	-.014	.324	.179	.349	.267	.223	.115	.226	-.141	-.503
FRC 29	Pearson Correlation	-.611	-.457	a	-.605	-.304	-.272	-.447	-.769**	-.272	-.492	-.781**	-.320	-.213	-.209
FRC 30	Pearson Correlation	.463	-.263	a	-.106	-.267	.514	.025	.089	-.472	-.389	-.035	.120	.086	.340
FRC 31	Pearson Correlation	-.114	.000	a	-.376	.219	-.558	-.544	-.601	.084	-.192	-.685**	-.920**	-.224	.260
FRC 32	Pearson Correlation	-.212	.120	a	.009	-.040	-.077	.224	-.264	-.554	.178	-.165	-.043	.000	.120
FRC 33	Pearson Correlation	.424	.346	a	.293	.278	-.097	.280	.348	.132	.222	.789**	.422	.294	.150
FRC 34	Pearson Correlation	.096	.024	a	-.044	.204	.164	.191	.238	-.377	.268	.663	.492	.677	.654
FRC 35	Pearson Correlation	.367	.372	a	.237	.038	-.101	.377	.301	-.019	.407	.713**	.424	.374	.179

Table 20 continued

		FRC 1	FRC 2	FRC 3	FRC 4	FRC 5	FRC 6	FRC 7	FRC 8	FRC 9	FRC 10	FRC 11	FRC 12	FRC 13	FRC 14
TAM A	Pearson Correlation	.503	.240	a	.476	.106	.419	.352	.682	.189	.097	.685**	.603	.067	-.158
TAM B	Pearson Correlation	.335	-.157	a	-.216	-.143	-.248	.053	-.190	.433	-.133	.213	-.181	.160	.317
TAM C	Pearson Correlation	-.036	.562	a	-.087	.591	-.470	-.443	.097	-.126	.455	.302	-.018	.543	.381
TAM D	Pearson Correlation	.139	-.146	a	.148	-.104	.296	.207	.041	.144	-.411	.307	.364	.192	.081
TAM E	Pearson Correlation	.030	-.267	a	.212	-.101	.583	.188	.246	-.473	-.266	-.152	.258	-.232	.088
TAM F	Pearson Correlation	.557	-.161	a	.385	.108	.386	.438	.532	.363	-.049	.314	.125	-.293	.245

Table 20 continued

		FRC 15	FRC 16	FRC 17	FRC 18	FRC 19	FRC 20	FRC 21	FRC 22	FRC 23	FRC 24	FRC 25	FRC 26	FRC 27	FRC 28
FRC 15	Pearson Correlation	1													
FRC 16	Pearson Correlation	.797**	1												
FRC 17	Pearson Correlation	.243	.156	1											
FRC 18	Pearson Correlation	-.489	-.175	.214	1										
FRC 19	Pearson Correlation	a	a	a	a	a									
FRC 20	Pearson Correlation	-.108	-.198	-.067	.365	a	1								
FRC 21	Pearson Correlation	-.282	-.178	.280	.457	a	.122	1							
FRC 22	Pearson Correlation	-.429	-.291	.104	.323	a	.183	.296	1						
FRC 23	Pearson Correlation	-.541	-.431	-.085	.394	a	.019	-.054	.692**	1					
FRC 24	Pearson Correlation	-.359	-.448	-.181	.299	a	.192	-.020	.202	.532	1				
FRC 25	Pearson Correlation	-.276	-.340	-.054	.294	a	-.067	.462	.017	.317	.575	1			
FRC 26	Pearson Correlation	-.368	-.348	-.087	.185	a	-.108	-.025	.255	.369	.656	.267	1		
FRC 27	Pearson Correlation	-.388	-.434	-.403	.238	a	.363	.238	.501	.407	.624	.339	.565	1	
FRC 28	Pearson Correlation	.365	.343	.531	-.058	a	-.349	.036	.238	.080	.224	-.027	.467	.114	1
FRC 29	Pearson Correlation	-.670	-.505	-.186	.229	a	.055	.069	.549	.744**	.533	.389	.187	.322	-.119
FRC 30	Pearson Correlation	-.041	-.116	-.165	.073	a	.143	.251	.184	-.046	.139	.022	.148	.142	-.050
FRC 31	Pearson Correlation	-.877**	-.746**	-.121	.329	a	-.150	.188	.135	.311	.087	.121	.292	.096	-.367
FRC 32	Pearson Correlation	-.126	.030	-.224	.030	a	-.278	.217	-.237	.105	.120	.721**	.020	-.075	-.218
FRC 33	Pearson Correlation	.648	.668	-.007	-.024	a	.104	-.435	-.567	-.336	-.371	-.234	-.469	-.490	-.194
FRC 34	Pearson Correlation	.458	.243	.394	-.153	a	.126	.157	-.439	-.531	-.501	.028	-.633	-.665	-.298

Table 20 continued

		FRC 15	FRC 16	FRC 17	FRC 18	FRC 19	FRC 20	FRC 21	FRC 22	FRC 23	FRC 24	FRC 25	FRC 26	FRC 27	FRC 28
FRC 35	Pearson Correlation	.588	.648	.073	-.028	a	-.189	-.167	-.365	-.252	-.402	.073	-.264	-.376	-.012
TAM A	Pearson Correlation	.762**	.657	.071	-.057	a	.217	-.149	-.267	-.437	-.130	-.285	-.331	-.093	.204
TAM B	Pearson Correlation	-.127	-.298	.119	.155	a	.263	-.148	.053	.032	-.199	-.224	.224	.078	-.171
TAM C	Pearson Correlation	.184	.461	.441	.170	a	-.437	.127	-.195	-.200	-.565	-.105	-.565	-.781**	-.042
TAM D	Pearson Correlation	.261	.236	-.022	.276	a	.869**	-.049	.020	-.121	.037	-.273	-.130	.208	-.116
TAM E	Pearson Correlation	.088	.026	-.273	-.272	a	.101	.010	-.140	-.202	.363	.028	.013	.067	.044
TAM F	Pearson Correlation	.245	-.139	-.025	-.330	a	.161	-.209	-.378	-.552	.042	-.336	.158	.092	.067

		FRC 29	FRC 30	FRC 31	FRC 32	FRC 33	FRC 34	FRC 35	TAM A	TAM B	TAM C	TAM D	TAM E	TAM F
FRC 29	Pearson Correlation	1												
FRC 30	Pearson Correlation	-.156	1											
FRC 31	Pearson Correlation	.357	-.048	1										
FRC 32	Pearson Correlation	.302	-.259	.075	1									
FRC 33	Pearson Correlation	-.560	-.179	-.517	.065	1								
FRC 34	Pearson Correlation	-.443	.135	-.303	.147	.468	1							
FRC 35	Pearson Correlation	-.524	-.155	-.465	.357	.796**	.454	1						
TAM A	Pearson Correlation	-.615	.283	-.777**	-.409	.615	.271	.408	1					
TAM B	Pearson Correlation	-.385	.001	.305	-.306	.155	.099	.215	-.116	1				
TAM C	Pearson Correlation	-.138	-.166	-.010	.177	.362	.465	.432	.097	-.225	1			
TAM D	Pearson Correlation	-.251	.095	-.440	-.327	.428	.128	.089	.509	.235	-.335	1		
TAM E	Pearson Correlation	.179	.476	-.259	-.058	-.241	-.037	-.485	.220	-.693**	-.246	.071	1	
TAM F	Pearson Correlation	-.574	.353	-.075	-.615	-.013	.084	-.215	.394	.306	-.407	.169	.282	1

** Correlation is significant at the 0.01 level
a Cannot be computed because at least one of the variables is constant
b Please note N=9
c Please note N=8
TAM A - Adherence
TAM B – Non-productive Sessions
TAM C – Therapist-Family Problem Solving Effort
TAM D – Therapist attempts to change Interactions
TAM E - Lack of Direction
TAM F – Family-Therapist Consensus

Table 21

		FRC 1	FRC 2	FRC 3	FRC 4	FRC 5	FRC 6	FRC 7	FRC 8	FRC 9	FRC 10	FRC 11	FRC 12	FRC 13	FRC 14
FRC 1	Pearson Correlation	a													
FRC 2	Pearson Correlation	a	1												
FRC 3	Pearson Correlation	a	a	a											
FRC 4	Pearson Correlation	a	.322	a	1										
FRC 5	Pearson Correlation	a	-.204	a	-.207	1									
FRC 6	Pearson Correlation	a	-.234	a	.621	.225	1								
FRC 7	Pearson Correlation	a	-.091	a	-.161	.496	.234	1							
FRC 8	Pearson Correlation	a	-.174	a	.000	.726**	.149	.522	1						
FRC 9	Pearson Correlation	a	-.091	a	.322	.146	.701	.273	.058	1					
FRC 10	Pearson Correlation	a	-.091	a	-.161	.496	.234	1.000**	.522	.273	1				
FRC 11	Pearson Correlation	a	-.223	a	.395	.500	.667	.445	.426	.445	.445	1			
FRC 12	Pearson Correlation	a	-.232	a	.557	.435	.850**	.364	.317	.695	.364	.730**	1		
FRC 13	Pearson Correlation	a	-.308	a	.273	.578	.565	.220	.421	.484	.220	.808**	.753**	1	
FRC 14	Pearson Correlation	a	-.197	a	-.175	.443	-.169	-.197	.378	-.197	-.197	.161	-.072	.477	1
FRC 15	Pearson Correlation	a	-.039	a	.035	.441	.504	.432	.225	.510	.432	.721**	.457	.608	.000
FRC 16	Pearson Correlation	a	-.224	a	.529	.359	.703	.075	.333	.572	.075	.670	.842**	.902**	.270
FRC 17	Pearson Correlation	a	-.408	a	-.145	-.288	.070	-.408	-.364	.353	-.408	.000	.030	.197	.059
FRC 18	Pearson Correlation	a	-.234	a	-.414	-.524	-.400	-.701	-.745**	-.234	-.701	-.572	-.510	-.339	.000
FRC 19	Pearson Correlation	a	a	a	a	a	a	a	a	a	a	a	a	a	a
FRC 20	Pearson Correlation	a	.165	a	-.059	-.138	-.255	-.629	-.190	.033	-.629	-.162	-.301	-.016	.359
FRC 21	Pearson Correlation	a	-.380	a	-.568	-.160	-.463	-.140	-.268	-.220	-.140	-.539	-.270	-.300	-.043
FRC 22	Pearson Correlation	a	-.070	a	-.217	-.629	-.450	-.491	-.537	-.210	-.491	-.558	-.370	-.390	-.381
FRC 23	Pearson Correlation	a	-.196	a	-.557	-.441	-.504	-.432	-.676	-.432	-.432	-.625	-.672	-.665	-.170
FRC 24	Pearson Correlation	a	-.266	a	-.343	.054	-.062	.315	.232	.121	.315	-.237	-.097	-.129	.158
FRC 25	Pearson Correlation	a	-.085	a	-.265	-.109	-.438	.171	-.163	-.597	.171	-.052	-.217	-.227	-.278
FRC 26	Pearson Correlation	a	-.082	a	.145	-.601	-.210	-.734**	-.364	-.408	-.734**	-.599	-.445	-.592	-.059
FRC 27	Pearson Correlation	a	.165	a	-.763**	-.138	-.765**	-.232	-.444	-.496	-.232	-.649	-.807**	-.592	.072
FRC 28	Pearson Correlation	a	-.629	a	-.059	-.138	.425	.165	-.190	.430	.165	.162	.422	.176	-.503
FRC 29	Pearson Correlation	a	.135	a	-.837**	.043	-.693	.135	-.258	-.405	.135	-.495	-.687	-.522	.000
FRC 30	Pearson Correlation	a	.327	a	.000	.035	-.187	-.327	-.070	-.254	-.327	-.445	-.079	-.053	.079
FRC 31	Pearson Correlation	a	.255	a	-.361	-.409	-.655	-.357	-.293	-.561	-.357	-.874**	-.798**	-.764**	.111
FRC 32	Pearson Correlation	a	a	a	a	a	a	a	a	a	a	a	a	a	a
FRC 33	Pearson Correlation	a	-.117	a	.506	.511	.733**	.487	.418	.554	.487	.945**	.873**	.820**	.036
FRC 34	Pearson Correlation	a	-.069	a	.736**	.111	.652	-.069	.044	.392	-.069	.621	.730**	.502	-.150
FRC 35	Pearson Correlation	a	-.051	a	.361	.474	.567	.357	.423	.425	.357	.915**	.538	.666	.184

		FRC 1	FRC 2	FRC 3	FRC 4	FRC 5	FRC 6	FRC 7	FRC 8	FRC 9	FRC 10	FRC 11	FRC 12	FRC 13	FRC 14
TAM A	Pearson Correlation	a	.134	a	.217	.542	.570	.638	.447	.686	.638	.722	.665	.698	-.043
TAM B	Pearson Correlation	a	-.622	a	-.086	-.010	.200	-.062	-.034	.325	-.062	.215	.231	.501	.536
TAM C	Pearson Correlation	a	-.269	a	-.313	.095	-.186	-.063	.136	.000	-.063	.310	-.168	.497	.632
TAM D	Pearson Correlation	a	.307	a	-.354	.090	-.173	.479	-.066	.443	.479	-.021	.025	.050	-.265
TAM E	Pearson Correlation	a	.320	a	.355	-.138	.120	.323	.255	.053	.323	-.252	.143	-.416	-.573
TAM F	Pearson Correlation	a	-.567	a	-.301	.501	.205	.815**	.663	.160	.815**	.416	.290	.223	-.003

Table 21 continued

		FRC 15	FRC 16	FRC 17	FRC 18	FRC 19	FRC 20	FRC 21	FRC 22	FRC 23	FRC 24	FRC 25	FRC 26	FRC 27	FRC 28
FRC 15	Pearson Correlation	1													
FRC 16	Pearson Correlation	.483	1												
FRC 17	Pearson Correlation	.247	.245	1											
FRC 18	Pearson Correlation	-.303	-.319	.629	1										
FRC 19	Pearson Correlation	a	a	a	a	a									
FRC 20	Pearson Correlation	.071	-.027	.624	.425	a	1								
FRC 21	Pearson Correlation	-.372	-.279	.449	.566	a	.168	1							
FRC 22	Pearson Correlation	-.348	-.230	.503	.720**	a	.204	.586	1						
FRC 23	Pearson Correlation	-.441	-.741**	.247	.807**	a	.186	.527	.484	1					
FRC 24	Pearson Correlation	-.052	-.099	.196	-.062	a	.062	.485	-.149	-.010	1				
FRC 25	Pearson Correlation	-.203	-.350	-.230	.110	a	-.404	.319	.378	.313	-.318	1			
FRC 26	Pearson Correlation	-.740**	-.379	.122	.489	a	.267	.233	.377	.528	.022	-.077	1		
FRC 27	Pearson Correlation	-.272	-.788**	.030	.595	a	.277	.430	.281	.786**	.062	.248	.148	1	
FRC 28	Pearson Correlation	.243	.299	.505	.255	a	-.301	.342	.434	.100	.062	.155	-.089	-.301	1
FRC 29	Pearson Correlation	-.116	-.775**	-.121	.346	a	.049	.386	.104	.640	.180	.316	-.121	.933**	-.245
FRC 30	Pearson Correlation	-.141	.149	-.033	.187	a	.119	.264	.294	-.094	.029	-.051	.098	.119	-.119
FRC 31	Pearson Correlation	-.682	-.711**	-.137	.393	a	.204	.393	.196	.550	.421	-.048	.594	.649	-.464
FRC 32	Pearson Correlation	a	a	a	a	a	a	a	a	a	a	a	a	a	a
FRC 33	Pearson Correlation	.645	.757**	-.105	-.646	a	-.299	-.535	-.517	-.732**	-.291	-.063	-.647	-.739**	.214
FRC 34	Pearson Correlation	.149	.587	-.062	-.296	a	-.176	-.472	-.160	-.388	-.645	.000	-.062	-.680	.227
FRC 35	Pearson Correlation	.682	.488	-.107	-.567	a	-.056	-.752**	-.629	-.550	-.367	-.191	-.533	-.501	-.056
TAM A b	Pearson Correlation	.826**	.614	-.112	-.644	a	-.248	-.541	-.471	-.779**	-.094	-.336	-.894**	-.489	.149
TAM B b	Pearson Correlation	.023	.409	.554	.250	a	.140	.271	-.071	-.004	.446	-.342	-.013	-.172	.257
TAM C b	Pearson Correlation	.394	.243	.447	.207	a	.341	-.091	.008	-.091	.022	-.105	-.318	.083	-.057

TAM D b	Pearson Correlation	.414	-.042	.135	-.066	a	-.015	.147	.126	-.138	.188	.007	-.721	.240	.143
TAM E b	Pearson Correlation	-.338	-.119	-.528	-.523	a	-.466	-.053	-.024	-.326	.227	-.011	.158	-.354	.020
TAM F b	Pearson Correlation	.250	.058	-.185	-.529	a	-.506	.064	-.391	-.259	.484	.176	-.413	-.273	.313

Table 21 continued

		FRC 29	FRC 30	FRC 31	FRC 32	FRC 33	FRC 34	FRC 35	TAM A	TAM B	TAM C	TAM D	TAM E	TAM F
FRC 29	Pearson Correlation	1												
FRC 30	Pearson Correlation	.000	1											
FRC 31	Pearson Correlation	.529	.305	1										
FRC 32	Pearson Correlation	a	a	a	a									
FRC 33	Pearson Correlation	-.572	-.301	-.912**	a	1								
FRC 34	Pearson Correlation	-.718**	-.249	-.737**	a	.728**	1							
FRC 35	Pearson Correlation	-.378	-.549	-.771**	a	.837**	.582	1						
TAM A b	Pearson Correlation	-.258	-.103	-.746**	a	.828**	.317	.695	1					
TAM B b	Pearson Correlation	-.197	-.280	-.082	a	.134	-.011	.060	-.040	1				
TAM C b	Pearson Correlation	.060	-.213	-.187	a	.113	-.218	.336	.201	.537	1			
TAM D b	Pearson Correlation	.422	.031	-.136	a	.079	-.336	-.017	.536	-.069		1		
TAM E b	Pearson Correlation	-.239	.183	.172	a	-.054	.029	-.277	.029	-.491	-.746**	.019	1	
TAM F b	Pearson Correlation	.028	-.498	-.309	a	.366	-.091	.299	.323	.203	.070	.103	.191	1

** Correlation is significant at the 0.01 level
a Cannot be computed because at least one of the variables is constant
b Please note N=11
TAM A - Adherence
TAM B – Non-productive Sessions
TAM C – Therapist-Family Problem Solving Effort
TAM D – Therapist attempts to change Interactions
TAM E - Lack of Direction
TAM F – Family-Therapist Consensus