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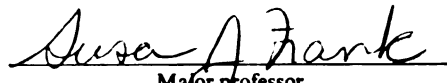
THE IMPACT OF REACTANCE ON THE TREATMENT PROGRESS  
OF INCARCERATED MALE ADOLESCENT OFFENDERS

presented by

Michele Ollie Poorman

has been accepted towards fulfillment  
of the requirements for

Ph.D. degree in Psychology

  
Major professor

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**THE IMPACT OF REACTANCE ON THE  
TREATMENT PROGRESS OF  
INCARCERATED MALE ADOLESCENT OFFENDERS**

By

Michele Ollie Poorman

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## **ABSTRACT**

### **THE IMPACT OF REACTANCE ON THE TREATMENT PROGRESS OF INCARCERATED MALE ADOLESCENT OFFENDERS**

By

Michele Ollie Poorman

Psychological reactance is an internal motivational force to regain lost or threaten freedoms (Brehm, 1966) that has both individual difference (trait reactance) and situation specific (state reactance) characteristics. Both the theoretical and empirical literatures have evaluated the effect of reactance on treatment progress for predominantly adult populations and have been inconsistent in their conclusions regarding the differential impact of trait and state reactance. In addition, the implications of increased levels of reactance during adolescence on adolescent treatment outcomes need to be clarified. Accordingly, this study investigated the nature of the relationship between trait and state reactance and whether both aspects of reactance interact in producing change in adolescents' psychological and behavioral problems. The participants were 29 males, 13 to 18 years of age, in a psychiatric residential treatment program for adjudicated adolescent boys. Trait reactance was assessed using the Therapeutic Reactance Scale (Dowd et al., 1991) and state reactance was assessed using a measure of satisfaction with

the institution and perceived need for treatment. Multiple outcome measures were completed by both adolescent residents and program staff. As expected, trait reactance was more stable than state reactance over time (Hypothesis 1), and trait and state reactance were moderately correlated, although the level of trait reactance restricted the range of state reactance (Hypothesis 2). A posteriori identification of an “unstable” state reactance group required modification of Hypothesis 3. Nevertheless, for some outcome variables, findings were as expected with state reactance moderating the effect of trait reactance on treatment progress (Hypothesis 3). Support for this hypothesis varied by type of pathology (internalizing versus externalizing) and informant (self versus staff). The results have implications for future research and clinical practice.

*For Willoughby*  
*for enriching my life in more ways*  
*than I could ever imagine*

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## INTRODUCTION

Both theoretical and empirical literatures have evaluated the effect of resistance on treatment process and outcome. However, the concept of resistance is often broadly defined or used to describe many different patterns of behavior. "Reactance" is one dimension of resistance defined by Brehm (1966) as a motivational force to restore lost or threatened freedoms. Like resistance, reactance can be both situation-specific and a characteristic of personality. Reactance levels can be placed along a continuum from abnormally low to abnormally high. Low reactant individuals tend to follow directions without resistance, tolerate others making decisions for them, respond in a non-defensive manner, accept interpretation, and often seek direction from others. However, abnormally low reactant individuals have been more negatively characterized as helpless (Dowd and Sanders, 1994). In contrast, high, especially abnormally high, reactant individuals have intense needs to maintain autonomy, are resistant to external influences, often refuse interpretation, and appear dominant.

Empirical studies of reactance theory have predominantly focused on adult populations and evaluated the relationship between reactance and other personality dimensions. It was not until recently that research has

focused on the impact of reactance on the effectiveness of interventions. However, most of this research has focused on the effect of reactance on treatment outcome for college students from non-clinical populations (i.e., procrastinators, athletes, smokers, individuals with sleep problems or test anxiety). There has been less focus on how reactance affects the treatment of clinical populations.

Both researchers and clinicians have been inconsistent in their conclusions about the impact of reactance on treatment. Some researchers have found that high reactant individuals show poor response to treatment (Dowd, Hughs, Brockbank, and Halpain, 1988; Morgan, 1986; as cited in Dowd, Milne, & Wise, 1991; Mulry, Fleming, and Gottschalk, 1994), whereas others report that reactance does not affect treatment outcome (Calvert, Beutler, & Crago, 1988; Hunsley, 1993; Swoboda, Dowd, and Wise, 1990). Alternatively, theorists have argued that while reactance is commonly seen as a negative, complicating factor in therapy, reactance can be used in service of therapeutic change (Tennen, Press, Rohrbaugh, and White, 1981).

While the adult literature does not point to any clear conclusions, at least it has attempted to grapple with the impact of reactance on treatment effectiveness. Almost no research has been done on adolescent reactance

and treatment outcome. This is consistent with other areas of adolescent outcome research. Outcome and process research in child and adolescent psychotherapy has lagged behind research in adult psychotherapy (Digiuseppe, Linscott, & Jilton, 1996). Given that reactance is thought to be especially high in adolescence as well as old age (Tennen et al., 1981), studying the impact of reactance on treatment effectiveness appears to be particularly relevant for adolescents.

Frank, Jackson-Walker, Marks, Van Egeren, Loop, and Olson (1998) have shown that reactance does affect outcome for middle adolescent inpatients. However, they found a curvilinear relationship between reactance and outcome whereby high and low scores on a reactance measure predicted different outcomes than moderate reactance. Patterns of reactance-change relationships also varied as a function of adolescents' sex. Frank et al.'s (1998) study highlights the importance of broadening the conceptualization of the relationship between reactance and outcome to include not only direct linear effect models but also more complex models such as curvilinear models and moderated models.

The present study is designed to further the work by Frank and her colleagues and to explore in more detail the nature of the relationship between adolescent reactance and treatment effectiveness. In order to

understand the complexity of this relationship, it is necessary to review the literature on reactance in general, adult reactance and treatment outcome, and potential distinctions between adolescent and adult reactance.

## Reactance

### State versus Trait Components of Reactance

Brehm (1966) originally conceived reactance as a situational variable (state reactance) with little emphasis on individual differences (trait reactance). In more recent years, researchers and theorists generally agree that the disinclination to be influenced by others (i.e., reactance) has both state and trait properties (Beutler, Sandowicz, Fisher, and Albanese, 1996). However, theoretical definitions of reactance differ in the degree to which trait and state factors are implied. For example, Dowd et al. (1991) hypothesized that psychological reactance is in part an individual difference variable that is relatively stable over time and across situation. However, based on their research on the trait reactance measure, they concluded that reactance is only partly a trait-like variable. Dowd and Walbrown (1993) concluded that reactance is partly situational and partly due to individual differences. Similarly, Beutler argued that reactance potential is an internal motivational state that can be increased by characteristics of **both** the

individual and the situation.

### Personality Characteristics Associated with Reactance

Several researchers have studied the personality characteristics associated with trait reactance. Generally, they found that high reactance was correlated with aspects of personality that have a negative connotation. For example, Beutler et al. (1996) concluded that reactant individuals are unusually angry, have strong needs for control, are impulsive, and are avoidant of relationships with others. Dowd et al. (1994) found that high reactant college students had personality styles characterized by a lack of interest in making a good impression and independence. In addition, high reactant male students were found to be intolerant of other's beliefs and dominant. Joubert (1990) demonstrated that reactance positively correlated with fear of failure and negatively correlated with self-esteem for females. For both males and females, reactance positively correlated with loneliness and negatively correlated with happiness. Hong and Faedda (1996) reported that reactance was positively correlated with depression and trait anger and slightly negatively correlated with religiosity and life satisfaction. Note however that Hong and Giannakopoulos (1994) found no relationship between reactance and life satisfaction in Australian adults.

While Dowd and Wallbrown (1993) also linked negative attributes to reactance, they alluded to potentially positive qualities of high reactant individuals. They found high reactant students to be defensive, aggressive, dominant, autonomous, quick to take offense, non-affiliative and non-supportive. But they speculated that high reactant people also would make effective leaders, have confidence in their decisions, and would stick with their goals. Hong and Faedda (1996) and Hellman and McMillin (1997) reported that at least one subscale of Hong and Page's (1989) measure of reactance was positively correlated with self-esteem. These findings demonstrate the inconsistencies in the literature about the personality correlates of reactance and suggest that the relationship is complex.

### Sex Differences in Reactance

There are inconsistencies in the literature about the relationship between reactance and gender. Hong (1990; Hong & Page, 1989) studied college undergraduates and found no sex differences in reactance. In contrast, Dowd, Wallbrown, Sanders, and Yesenosky (1994), Courchaine, Loucka, and Dowd (1995), and Joubert (1990) found that male college students were significantly more reactant than female college students. It is noteworthy that the research by Hong used a different measure of reactance

and was conducted using Australian subjects (as opposed to American). It is possible that sex role socialization differs significantly in these countries and that may account for some of the difference in the findings.

### Reactance and Outcome

A significant body of research exists on the relative effectiveness of different therapeutic techniques in producing positive treatment outcomes. However, this research has not adequately addressed why different people respond differently to the same intervention. A relatively small number of psychotherapy researchers have attempted to identify client characteristics that correlate with positive treatment outcome. Beutler and Crago (1991) concluded that client characteristics accounted for the greatest source of variance in client outcome. In addition, Beutler and Clarkin (1990) identified reactance as a client characteristic that appeared promising for predicting differential responsiveness to different types of psychotherapy.

### Theoretical Literature

Most theorists appear to agree that, in general, a negative relationship exists between reactance and prognosis. For example, Dowd and his colleagues (1990; 1991; 1994) argued that low reactant individuals would

be especially compliant in the treatment process and should be expected to improve more rapidly than high reactant clients. They hypothesized that high reactant clients would engage in oppositional behavior and that therapeutic progress would be slower and ultimate outcome poorer. More specifically, they suggested that the most difficult clients were high reactant clients with ego-syntonic symptoms whereas clients with low reactance or ego-dystonic symptoms were less difficult.

In contrast, Kirmayer (1990) expressed concerns about extremely low reactant individuals. He warned that the relative absence of reactance might be considered a helpless stance and that a shift to higher reactance reflects an improved prognosis. Similarly, Tennen et al. (1981) argue that reactance can be used therapeutically to accomplish treatment goals. They hypothesize that client's reactance can be channeled by the therapist to produce successful treatment outcomes.

### Research Literature

Researchers investigated the relationship between reactance and treatment outcome in order to validate the theoretical predictions. This research can be divided into research on trait reactance, state reactance, and both trait and state reactance. Most of the research on reactance and

outcome was done on college students from non-clinical samples. The generalizability of this research to actual clients in treatment is not clear. However, a review of the smaller number of studies with clinical populations shows a similar pattern of results, with not all studies showing a negative effect, but none demonstrating a positive effect of reactance on treatment effectiveness.

Trait Reactance. Of the research with trait reactance reviewed below, four studies found a negative relationship between trait reactance and treatment process or outcome; three studies found that trait reactance did not affect treatment outcomes, and seven found a more complex relationship between reactance and treatment outcome.

Courchaine et al. (1995) studied the impact of trait reactance, counselor type, and counselor style of interpretation on positive feelings about the counselor. They measured trait reactance using both the Therapeutic Reactance Scale (Dowd et al., 1991) and the Merz Reactance Questionnaire (Merz, 1983). They found that high trait reactant students rated counselors as less positive, less expert, and less trustworthy than low trait reactant students. They concluded that client personality variables potentially had a greater effect on outcome than therapeutic techniques and suggested that trait reactance was a prime individual difference variable

impacting treatment process and outcome.

Dowd, Hughes, Brockbank, Halpain, Seibel, and Seibel (1988) studied the impact of trait reactance on the treatment of procrastination and test anxiety. They predicted that trait reactance (measured by the Therapeutic Reactance Scale; Dowd et al., 1991) would moderate the relationship between treatment approach (i.e., restraining, reframing, and non-paradoxical interventions) and outcome. Contrary to predictions, none of the treatment conditions were differentially effective for high and low trait reactant students. However, they found that high trait reactant subjects experienced less satisfaction with performance and more anxiety after treatment than low trait reactant students.

Most empirical studies on the impact of trait reactance on treatment outcome evaluated individual therapy approaches. However, Oliver, Mattson, and Moore (1993) evaluated the effectiveness of a marital enrichment program for seventeen couples who volunteered for the study. Results indicated that only females demonstrated improvements in outcome measures (i.e., marital satisfaction, dyadic consensus, cohesion, and affection). However, high trait reactance (TRS; Dowd et al., 1991) was negatively associated with improvement. They concluded that trait reactance acted as an antagonist in regard to females' improvement in

perception of marital adjustment. While males' trait reactance had no impact on treatment outcome (in general, they did not show improvement so no relationship was possible), their trait reactance was found to increase over the time of treatment. The researchers concluded that trait reactance, while an important factor in determining the effectiveness of marital interventions, had a differential impact on males and females in a marital relationship.

One study evaluating a clinical sample found that reactance had a negative impact on outcome. Morgan (1986; as cited in Dowd et al., 1991) found that high trait reactant clients had higher no-show rates and were in treatment longer than low trait reactant clients.

Three studies found that reactance had no significant effects on treatment outcome. One study of a non-clinical population found that trait reactance (as measured by the Therapeutic Reactance Scale; Dowd et al., 1991) did not have an impact on perceived treatment acceptability (Hunsley, 1993). In a clinical population, Swoboda, Dowd, and Wise (1990) studied the effect of different treatment approaches on depressed adults. Their results indicated that trait reactance (TRS; Dowd et al., 1991) had no effect on treatment outcome. They hypothesized that the lack of significant findings may be due to the more severe client problems in their study.

Similarly, Calvert, Beutler, and Crago (1988) tested the assumption that matching psychotherapy approach to theory relevant patient characteristics (i.e., trait reactance) would result in improved treatment outcome. They measured trait reactance using a subscale of the Fundamental Interpersonal Relations Orientation Scale, Behavior (FIRO-B; Schutz, 1959; as cited in Calvert et al., 1988). The subscale assessed desire for interpersonal control and the extent to which an individual allows his or her behavior to be controlled or influenced by others. Contrary to prediction, matching patient trait reactance to therapist approach did not affect outcome.

More complex relationships between trait reactance and outcome were investigated by several researchers. Dowd, Trutt, and Watkins (1992) hypothesized that individual differences in students' trait reactance (TRS; Dowd et al., 1991) would interact with their responses to tentative and absolute interpretations in predicting therapist ratings. Results demonstrated that high trait reactant students more positively rated therapists that used absolute (versus tentative) interpretation while low trait reactant students showed the opposite correlation. This finding was in the opposite direction from what was predicted but was similar to findings by Courchaine et al. (1995).

Kelly and Nauta (1997) studied whether trait reactance moderated the relationship between therapeutic approach and thought suppression. They conducted two studies of college students in introductory psychology classes and measured reactance using Dowd's (1991) trait reactance scale. They concluded that reactance moderated the effects of thought control strategies. In particular, high reactant students in the thought suppression group reported more negative outcomes (e.g., feeling out of control, feeling disturbed by their thoughts) than high reactant students in the thought expression group. The opposite finding was reported for low reactant students with students in the expression group reporting more negative outcomes than students in the suppression group.

Horvath and Goheen (1990) studied adults with sleep problems. The results indicated that more- and less- trait reactant individuals ( as measured by the TRS; Dowd et al., 1991) benefited similarly from different types of treatment (i.e., paradoxical and behavioral interventions). However, trait reactance appeared to moderate the relationship between type of treatment and improvement after treatment. For example, for clients exposed to paradoxical interventions, more trait reactant clients continued to improve beyond active treatment, whereas less trait reactant clients tended to lose some of the initial gains. In contrast, clients exposed to behavioral

treatment showed the opposite results.

Carter and Kelly (1997) found similar results when studying anxiety in athletes. They studied differential impact of traditional and paradoxical imagery interventions aimed at anxiety reduction on athletes with high or low trait reactance ( TRS; Dowd et al., 1991). They hypothesized that high reactant athletes would show less anxiety and better performance with paradoxical imagery while low reactant athletes would show better outcomes with the traditional confidence building imagery. They found partial support for their predictions. In particular, low reactant athletes reported more anxiety and less confidence with paradoxical imagery. However, they found no differences in levels of anxiety for the high reactant athletes in the different intervention groups. The opposite finding was found when predicting performance. The low reactant group did not show any differences in performance in the different intervention groups. However, the high reactant group performed best with no intervention (i.e., the control group). They concluded that trait reactance moderates the effect of treatment strategy on athletes' anxiety and performance, although the direction of their findings was difficult to interpret.

Two clinical studies evaluated the impact of trait reactance as a moderator of relationships between treatment characteristics and treatment

outcomes. Graybar, Antonuccio, Boutilier, and Varble (1989) found that trait reactance (TRS; Dowd et al., 1991) moderated the relationship between smoking cessation and doctor tone or amount of advice. For high trait reactant patients, a low amount of negatively toned advice was most effective in reducing smoking. In contrast, for low trait reactant patients a high amount of either positively or negatively toned advice produced the best outcomes.

Beutler, Mohr, Grawe, Engle, and McDonald (1991) suggested that therapists working with high trait reactant individuals should avoid direct confrontation and interpretation and use non-directive approaches that negotiate solutions, give choices, and/or empower individuals. Their own research supported these predictions. They measured trait reactance using nine instruments that described characteristics of highly reactant individuals (e.g., dominance, sensitivity to interpersonal control, and competitiveness). They found that high trait reactance was negatively correlated with improvement at outcome when directive treatments were used and positively correlated with improvement at outcome when non-directive treatments were used.

The research does not present a clear picture regarding the impact of trait reactance on outcome. While half of the studies found either no

relationship or a negative relationship between reactance and outcome, half of the reviewed studies indicated a more complex relationship. In particular, treatment approach moderated the relationship between trait reactance and outcome.

State Reactance. With a non-clinical population, Shoham-Salomon, Avner, and Neeman (1989) investigated the impact of state reactance as a moderator of the relationship between treatment approach and outcome. State reactance was experimentally manipulated by placing participants in different experimental conditions. For example, in the high state reactant condition participants were told they could choose the treatment method and then were assigned to the non-preferred method without explanation. They found that high state reactant students showed more improvement in paradoxical interventions than in behavioral interventions. The opposite relationship was found for low state reactant students. They concluded that state reactance affected the relationship between treatment approach and outcome.

Using clinical populations, two studies investigated the impact of resistance on treatment outcome. Their operationalized definition of resistance was analogous to state reactance. Chamberlain, Patterson, Reid, Kavanagh, & Forgatch (1984) investigated the extent to which resistance

affected treatment outcome. They measured resistance using a coding system designed to study client resistant behavior during therapy sessions. They rated client's responses to therapist's direction as resistant if the client interrupted, was unwilling to cooperate, confronted, changed the subject, or refused to respond. Results showed that a reduction in resistance/state reactance from initial to termination sessions was positively correlated with treatment outcome.

Stoolmiller, Duncan, Bank, and Patterson (1993) studied patterns of change in client resistance during parent training therapy for mothers of conduct problem children. Resistance to therapy was coded at admission, mid-therapy, and termination using the same coding system described above (Chamberlain et al., 1984). They found that families with accelerating and chronically high levels of resistance (i.e., state reactance) were likely to fail in treatment. In addition, they found families with low levels of resistance (i.e., state reactance) throughout treatment also appeared unlikely to benefit from parent training. This finding supports Kirmayer's (1990) warnings about the negative impact of extremely low reactance. These results demonstrate a curvilinear relationship between reactance and outcome with high and low reactance having a negative impact on outcome.

While there were fewer studies on the relationship between state

reactance and outcome than trait reactance and outcome, the findings demonstrated a similar inconsistent pattern. In particular, one study found a negative relationship, one found a curvilinear relationship, and one found a moderated relationship between state reactance and outcome.

State and Trait Reactance. Only one study, using a non-clinical population, evaluated the impact of both state and trait reactance on outcome. Mulry et al. (1994) studied the effects of both state and trait reactance on treatment approaches for procrastination. They assessed trait reactance using the Therapeutic Reactance Scale (Dowd et al., 1991). State reactance was experimentally manipulated similar to the aforementioned study by Shoham-Salomon et al. (1989). They found that high state reactant students showed less improvement than low state reactant students. In addition, they concluded that state reactance generalized across situations. They manipulated state reactance using relevant or non-relevant situations. In the relevant high state reactant condition, state reactance was manipulated by assigning participants to the non-preferred choice without explanation. In the non-relevant high state reactant condition, participants attempted to solve impossible visual discrimination puzzles. Both relevant and non-relevant manipulated state reactance produced the same impact on outcome. Unlike state reactance, trait reactance did not impact treatment

outcome. They concluded that state reactance was more influential than trait reactance in predicting treatment outcome.

The experimental manipulation used in this study may create an artificial situation with conclusions partially lacking external validity. Consequently, the differential impact of state and trait reactance should be further investigated in clinical settings. In addition, since clinical settings do not require the experimental manipulation of state reactance, the relationship between state and trait reactance more easily can be investigated.

### Adolescent versus Adult Reactance

All the aforementioned literature reported findings for adults. In contrast, this research will focus on adolescents. Several studies indicate that adolescents experience higher rates of reactance and consequently, may show different personality profiles and responses to treatment. In particular, Frank et al. (1998) suggested that adolescence is an especially reactant phase of development and reported that adolescent scores on the adolescent version of the TRS (Dowd et al., 1991) were higher and more varied than those found with adults (Dowd et al., 1991). However, they were unable to make generalizations to normal adolescents because they used an inpatient

sample. Hong, Giannakopoulos, Laing, and Williams (1994) studied 18-40 year old normal adults and found levels of reactance decreased with age. However, while their study included 18 to 22 year olds (often referred to as late adolescence), they did not study early or middle adolescents.

Finally, Taylor, Adelman, and Kaser-Boyd (1985) investigated adolescents' treatment reluctance (state reactance). They conceptualized reluctance as adolescents' reports of refusal to participate, expressions of ambivalence, complaints of coercion, avoidance, and dropping out of therapy. They found that 79% of the adolescents in their study manifested some form of reluctance (state reactance). The reasons for the high level of reactance found among adolescents may be better understood by evaluating adolescent development and how adolescents enter treatment.

### Developmental Considerations

Dowd and Seibel (1990) viewed reactance as a vehicle for creating and maintaining autonomy. Given that the developmental task of adolescence is to establish autonomy, it would be expected that reactance would vary with development. Adolescents may characteristically be resistant to advice and direction from others and appear hostile, argumentative, and oppositional to change because a primary focus of

adolescence is the establishment of independence (Diguiseppe et al., 1996). Similarly, adolescents may be especially resistant when their autonomy is threatened and they may attempt to gain control by being negative and oppositional (Bow, 1988).

### Referral Source

Most adolescents and children are brought to treatment by third party referrals (i.e., parents, teachers, or courts). Third party referrals reduce commitment to treatment and may produce reactance (Brehm, 1972). Chamberlain et al. (1984) demonstrated that families who were agency referred tended to have higher levels of resistance than those who were self-referred. Similarly, Prandoni and Wall (1990) reported that court-mandated evaluation or treatment aroused reactance. According to Diguiseppe et al. (1996), the field of psychotherapy has always had difficulty with court-mandated referrals and clients who attend therapy at the insistence of others. They concluded that child and adolescent psychotherapy differs significantly from adult psychotherapy because the client is not self-referred.

### Research on Adolescent Reactance and Personality Characteristics

Because adolescence is a developmental stage characterized by high reactance, it is important to investigate whether reactance among individuals correlates meaningfully with different personality profiles and predicts differential responses to treatment. Frank et al. (1998) studied adolescents and found similar relationships between reactance and personality as found in the adult literature. In particular, reactance was associated with counter-conventional, antisocial, narcissistic, non-affiliative, and distrustful personality traits. As predicted, they found no sex differences and no relationship between reactance and psychological distress.

### Research on Adolescent Reactance and Outcome

Frank et al. (1998) also found that trait reactance affected hospital length of stay and outcome at 3 and 6 months post discharge for adolescent inpatients. They measured trait reactance using a modified version of the Dowd et al. (TRS; 1991) measure. Whereas higher trait reactance was associated with longer length of stays, the relationships between trait reactance and outcome were curvilinear. In particular, high and low trait reactance predicted different outcomes (changes in functional impairment)

than moderate trait reactance for middle adolescents. However, results differed for boys and girls. They found that both high and low trait reactance were associated with a reduction in aggressive and depressive behaviors for boys and a reduction in alcohol and substance abuse for both boys and girls. Alternatively, moderate trait reactance was associated with an increase or no change in these problem areas. In contrast, moderate trait reactant girls showed more reduction in aggressive and depressive behaviors than high and low trait reactant girls.

#### Juvenile Offenders, Outcome, and Reactance

Juvenile offenders are a group of adolescents that are thought to be particularly resistant to treatment. Dowd and Seibel (1990) observed that antisocial clients are notoriously difficult to engage in treatment. Incarcerated juvenile offenders are thought to be highly reactant because limitations on personal autonomy are an inevitable fact of life for incarcerated adolescents and the involuntary nature of the placement is likely to increase reactance (Martin & Osgood, 1987). In addition, reactance and antisocial traits in adolescence appear to go hand in hand (Frank et al., 1998).

The majority of the studies on the effectiveness of treatment for

adolescent offenders have focused on the treatment program and/or the treatment approach (Adams & Vetter, 1982; Hollin, 1993; Nir & Cutler, 1973; Velasquez & Lyle, 1985) and have produced contradictory results. Kazdin (1987) reported that published studies on treatment of antisocial adolescents are generally pessimistic regarding success rates. In contrast, Basta and Davidson (1988) reviewed the literature on the treatment of adjudicated juvenile offenders and concluded that the overall findings were positive. Similarly, Hollin (1993) reviewed the literature on treatment approaches used with juvenile offenders and concluded that there was reason for optimism in the field of offender treatment. He described client resistance as a significant barrier to treatment success that must be more clearly understood. Investigating the impact of offender reactance on the effectiveness of treatment may help explain the inconsistencies in the research findings.

### The Proposed Study

The proposed study will investigate the relationship between reactance and treatment progress for incarcerated male juvenile offenders. The ambiguity regarding the differential effect of state and trait characteristics of reactance suggests the need for research aimed at

clarifying the impact of both aspects of reactance. The only research which simultaneously evaluated both aspects of reactance investigated non-clinical populations and experimentally manipulated state reactance. Consequently, it is important to investigate the impact of both types of reactance on treatment outcome with clients in clinical settings.

For the present study, trait reactance will be assessed using a self-report questionnaire developed by Dowd et al. (1991) and modified for adolescents by Frank et al. (1993). Of the three trait reactance measures found in the literature (Dowd et al., 1991; Hong & Page, 1989; Merz, 1983), Dowd's measure has been most consistently used and is the only measure validated on adolescent populations. The measure was based on Brehm's (1966) definition of psychological reactance.

Measuring state reactance or situation specific reactance is significantly more difficult. Several measures have been developed to observe reactance as it varies during treatment (Chamberlain, Davis, Forgatch, Frey, Patterson, Ray, Rothchild, Trombley, 1986; Kavanagh, Gabrielson, & Chamberlain, 1982; Mahalik, 1994). However, all of these require ratings of micro behaviors within the treatment situation. This micro level analysis is too intrusive and potentially non-representative when studying reactance in residential treatment programs. Consequently, a

different method of assessing state reactance was identified.

Taylor et al. (1985) explored the components of adolescents' situational reactance during treatment. The adolescents explained their reactance as stemming from three sources: a negative attribute of therapy, lack of need for treatment/denial of problems, and lack of choice in the decision to receive treatment. Their findings indicated that state reactance may be assessed by asking adolescents about their satisfaction with the treatment program and their beliefs about whether they needed treatment. Two measures by Osgood, Gruber, Archer, and Newcomb (1985) were used to measure these constructs (Satisfaction with the Institution and Perceived Need for Treatment).

### Hypothesis 1

Given that personality is thought to originate within the individual and be consistent across situations (Burger, 1990), it is expected that trait reactance will be stable over time because it measures a personality characteristic. In contrast, since the environment is constantly changing and individuals experience each situations differently, state reactance will change over time because it is by definition a situation-specific variable.

## Hypothesis 2

Given that both state and trait reactance are dimensions of a larger construct, it is expected that these variables will be moderately positively correlated even though trait reactance will set limits on the range of state reactance. Specifically, trait and state reactance may function analogously to genotypes and phenotypes. Trait reactance is like an individual's genotype. Each individual has a level of reactance that s/he is likely to experience. This is the reactance potential that s/he brings to every situation. State reactance is the “phenotype” or actual reactance the individual experiences in each situation. Accordingly, high reactant individuals bring that potential to all situations but may respond in less or more reactant ways depending on the characteristics of the situation. However, on the average across situations, this individual will be more reactant than another individual with low trait reactance and the possibility that he or she will demonstrate relatively low reactance (as opposed to high or moderate) levels of reactance is low. Consequently, on average trait reactance and state reactance should be moderately correlated.

### Hypothesis 3

The present study will investigate the differential effect of state and trait reactance on outcome. It is expected that state reactance will moderate the relationship between trait reactance and treatment progress. This relationship would explain inconsistencies in the literature. For example, it can explain why under certain conditions high trait reactant individuals would show the best treatment outcomes and under other conditions show the worst treatment outcomes. If high trait reactant individuals accept the treatment goals, perceive themselves as needing change, and are satisfied with the treatment program, i.e., "state" reactance is relatively low, they should show relatively good outcomes. In addition, high trait reactant individuals who are invested in treatment (i.e., lower state reactance) are more likely to be actively involved in the treatment process, internalize the ideas of the therapy, and maintain positive change over time. They are more motivated to accomplish the short and long term goals of therapy because they have "made them their own." In essence, high trait reactant individuals with relatively lower state reactance should demonstrate the positive aspects of high reactance introduced by Dowd and Wallbrown (1993).

In contrast, high trait reactance individuals with high state reactance will often refuse to actively participate in treatment and will resist the

changes others are trying to make in them. These individuals will not feel they have a reason to change and will not view the treatment program as able to help them. Accordingly, these individuals should show little to no treatment progress.

An individual who has low trait reactance is likely to have low state reactance. However, if they perceive the treatment program as not being able to help them or as having negative effects on them, their state reactance may be relatively higher. Individuals with low trait reactance who believe they need help in order change, are satisfied with the treatment program, and accept the goals of treatment (i.e., low state reactance) are likely to show more treatment progress than those individuals with low trait reactance and relatively higher state reactance.

### Specific Predictions

Based on the aforementioned hypotheses, the following specific predictions were made:

1. Trait reactance will be relatively stable over time whereas state reactance will change over time.
2. Trait and state reactance will be moderately correlated and trait reactance group classifications will be related to state reactance

group classifications. In particular, low trait reactant subjects are more likely to exhibit low or moderate (but not high) state reactance whereas high trait reactant subjects are more likely to exhibit high or moderate (but not low) state reactance.

3. State reactance will moderate the effect of trait reactance on treatment effectiveness. In particular, if state reactance is lower than trait reactance, positive changes in psychological and behavioral problems will be greater than when state reactance is higher or equal to trait reactance.

- a) When trait reactance is high and state reactance is moderate or low, positive changes in psychological and behavioral problems will be better than when trait reactance and state reactance are both high.
- b) When trait reactance is moderate and state reactance is relatively low, positive changes in psychological and behavioral problems will be better than when trait reactance is moderate and state reactance is high.
- c) When trait reactance is low and state reactance is also low, treatment progress will be better than when trait reactance is low and state reactance is moderate or high.

## **METHOD**

### **Participants**

Participants were 29 males who were being treated at a psychiatric residential treatment program for adjudicated adolescent boys. They ranged in age from 13 to 18 with 80% of the sample 15 years old or older. 53% of the residents were Caucasian, 37% were African American, 3% were Latino, and 7% were Native American. 17 % were in junior high, 70% were in high school, and 3% had completed high school. 73% of the residents reported being in special education. The average IQ was 83 (range =54-114; estimated from IQ data from 75% of the residents).

All of the participants were admitted to the treatment program within the same 3 month period of time upon orders from their local probate judge. All residents were wards of the court and identified for placement in this particular program because they had psychiatric diagnoses that warranted treatment as well as incarceration. 67% of the residents had four or more DSM-IV Axis I diagnoses, 27% had three diagnoses, and 6% had two diagnoses. Table 1 presents the distribution of diagnostic categories based on the admitting psychiatrist diagnosis: 33% of the residents had at least one DSM-IV Axis II diagnosis with 80% of these residents being diagnosed

as mentally retarded (IQ's for 75% of those with data ranged from 54 to 79).

On Axis IV, all but one of the residents showed severe social and environmental problems. The average global assessment of current functioning indicated serious impairment (mean = 45.52; Axis V).

Table 1

Percentages of Residents with DSM-IV Axis I Diagnoses

| <b>DSM-IV Diagnosis</b>                  | <b>Percentage</b> |
|------------------------------------------|-------------------|
| Major Depressive Disorder                | 13                |
| Dsthymia                                 | 80                |
| Bipolar Disorder                         | 7                 |
| Post Traumatic Stress Disorder           | 33                |
| Anxiety Disorders                        | 10                |
| Obsessive Compulsive Disorder            | 3                 |
| Attention Deficit Hyperactivity Disorder | 60                |
| Psychosis                                | 13                |
| Conduct Disorder                         | 67                |
| Oppositional Defiant Disorder            | 37                |
| Intermittent Explosive Disorder          | 23                |
| Impulse Control Disorder                 | 53                |
| Substance Abuse                          | 20                |
| Other (enuresis & articulation disorder) | 7                 |

Due to their psychiatric problems, 77% of the residents were on medications at the time of admission and 87% were on medication 3 months after admission. The number of medication categories ranged from 0 to 5. Table 2 reports the percentage of residents on each type of medication at admission and 3 months post admission.

Table 2

Percent of Residents Taking Each Type of Medication at Admission (Time 1) and 3 Months Post Admission (Time 2)

| <u>Medication Category</u> | <u>Time 1</u> | <u>Time 2</u> |
|----------------------------|---------------|---------------|
| Antidepressants            | 33            | 57            |
| Anti-anxiety               | 7             | 17            |
| Mood Stabilizer            | 37            | 47            |
| Anti-psychotic             | 30            | 33            |
| Stimulant                  | 20            | 30            |
| Cogentin                   | 13            | 23            |
| Sleep Medication           | 10            | 20            |
| Other Psychiatric          | 7             | 7             |
| Physical Problems          | 20            | 17            |

In addition to psychiatric problems, all of the residents had criminal histories. The number of convictions ranged from 1 to 10 with mode being

three crimes. The types of crimes committed can be divided into six categories describing the nature of the crime (Table 3). The most common status offenses include truancy, running away, and incorrigibility. Probation violation was the only crime in its category. The most common misdemeanors were driving without a license, carrying a concealed weapon, and escaping a correctional program. The most common drug offenses include possession of marijuana. The most common property offenses were petty larceny, attempted arson, grand larceny, and breaking and entering. Finally, the most common person offenses include aggravated assault, assault and battery, and rape.

Table 3

Distribution of Crime Convictions Among the Six Offense Categories

| <u>Offense Category</u> | <u>Number of Convictions</u> |
|-------------------------|------------------------------|
| Status Offense          | 22                           |
| Probation Violations    | 9                            |
| Misdemeanors            | 13                           |
| Drug Offenses           | 5                            |
| Property Crimes         | 35                           |
| Person Crimes           | 29                           |

Only two of the residents came from intact families. Approximately half of the residents came from divorced families and one quarter had parents who were never married. The remaining five residents reported that their father had died. None of the residents had mothers who had died. Half of the resident did not know enough about their fathers to report their fathers' education. Of the residents that knew their father's education, half had fathers who had not completed high school and only one had a father who graduated from college. In contrast, all but three residents knew their mother's educational level. Mothers of only four of the residents had not completed high school and five mothers completed college.

Prior to initial incarceration, 83% of the residents lived with either or both parents. Of the 5 residents not living with their parents, one lived with relatives, one lived with a family friend, and three lived in foster care. However, prior to placement at this facility, only one resident lived with his family. The others either were placed in foster care (3%), residential treatment (3%), or juvenile detention (90%). Three months after admission, 90% of the residents had had contact with their family since admission either by phone, letters, or visitation and 73% of the residents families participated in family therapy.

## The Program

At time of admission, all residents were informed they would be in the program for approximately one year. It is expected that the residents would be returned to their local communities after they were discharged from the program. Funding for the program was provided by the Family Independence Agency.

At time of admission, residents were randomly assigned to one of three treatment groups depending on the space available. The residents completed all of their treatment and activities with their group and never interacted with members of other groups. Each group was essentially a replication of the others, with programming and treatment protocols the same for all treatment groups. The three groups of 10 residents each had a group supervisor. The program was based on a positive peer culture model. The fundamental assumption was that peer influence could be manipulated in the direction of acceptance of treatment goals and positive change. The program was designed to elicit pro-social norms in the groups by giving residents autonomy to make certain choices. This was expected to result in a greater internalization of the group's goals.

All groups participated in the same daily schedule. Residents attended school taught by special education teachers for six hours each day.

The remainder of their time was divided among activities of daily living (i.e., eating, showering, and sleeping) and recreational, psychoeducational, and behavior modification groups. All residents were required to attend all groups. The only reason they were excused from group was if they were seriously ill or they were in seclusion/restraints for unsafe behavior.

Recreational activities included quiet time and gross motor activities in the gym or outside. Psychoeducational groups focused on thinking errors (e.g., lack of empathy, blaming others, criminal excitement, lying, etc.), victim awareness, social skills training, life skills training, parenting skills, current events, and human sexuality. In addition, each day all residents wrote in reflection logs that staff read and provided feedback on each night.

Behavior management groups focused on group norms, anger management, substance abuse, behavior control, and the level system (described below). All residents earned points on an hourly basis throughout every day. They earned points for avoiding thinking errors, following unit rules, participating in activities, interacting with others appropriately, and following safety guidelines. All residents started at orientation level and progressed to higher levels as they earned points. Each level (i.e., orientation, starter, leader, and champion) was associated with basic privileges with higher levels receiving more privileges. All residents

could lose a level for negative behavior.

### Measures

Three constructs germane to this study were measured: reactance, functional impairment, and behavior problems.

#### Adolescent Reactance

Trait Reactance. The 28-item Therapeutic Reactance Scale-Adolescent Version (TRS-A) (Frank, Van Egeren, and Poorman, 1993 version of Dowd et al., 1991) was used to measure adolescent offenders trait reactance (Appendix A). Respondents rated each item on a 4-point scale, indicating whether they strongly disagree, disagree, agree, or strongly agree. Trait reactance scores were calculated by averaging the responses on all 28 items. Frank et al. (1993) revised Dowd et al.'s (1991) Therapeutic Reactance Scale (TRS) to make it more appropriate for adolescents. An initial examination of the items on the TRS indicated that the content and vocabulary of approximately half of the items were already appropriate for adolescents. The other half easily could be modified without sacrificing the original meaning (e.g., "I am not very tolerant of others' attempts to persuade me" on the TRS appears as "It irritates me when other people try to

change my mind" on the TRS-A.) (See Dowd et al. (1991) for information on reliability and validity of the TRS.) Frank et al. (1998) provided evidence of reliability and validity for the TRS-A. They reported internal consistency coefficients of .72 and .79. While they found that mean scores were higher and more varied on the TRS-A than reported for college students and other adult populations on the TRS, the relationships between trait reactance and personality traits were as predicted and similar to findings using the TRS. In particular, trait reactance was associated with counter-conventional, antisocial, narcissistic, non-affiliative, and distrustful personality traits. As predicted, they found no relationship between trait reactance and psychological distress. The internal consistency coefficients for this sample were .85, .89, and .77 at the three administrations.

State Reactance. State reactance was measured by two scales:

Perceived Need for Treatment (Osgood, Gruber, Archer, & Newcomb, 1985) and Satisfaction with the Institution (Osgood et al., 1985) (Appendix B). Perceived Need for Treatment is a 4 item scale assessing the extent to which residents believe that they need treatment in order to stay out of trouble (e.g., "Do you think you need help from someone so you can change and stay out of trouble?"). Satisfaction with the Institution is a 4 item scale assessing the extent to which residents believe that the institution is helping

them with their problems (e.g., "On the whole, has this place been good for you so far?"). Two items on this scale were reworded so that they could be answered using the same scale as the remaining items (e.g., "Do you think your life will be better or worse because you have spent time here?" was changed to "Do you think your life will be better because you have spent time here?"). Residents rated each item on a 4-point scale, indicating definitely no, probably no, probably yes, and definitely yes. State reactance scores were calculated by averaging the responses on all 8 items. Osgood (et al., 1985; and Martin & Osgood, 1987) reported internal consistency coefficients of .69, and .69 and .72 and .76, respectively. Osgood and his colleagues (et al., 1985; Gold, Mattlin, & Osgood, 1989; and Martin & Osgood, 1987) demonstrated construct validity. They reported that state reactance negatively correlated with offenders' experiences of autonomy in the program. In particular, offenders who felt they had a great deal of autonomy reported a positive attitude about the program and acknowledged their need for treatment (i.e., low state reactance). In addition, they found that state reactance was negatively correlated to ties with staff and positively correlated with antisocial values and experiences of anxiety and depression. Internal consistency coefficients for the entire scale for this sample were .75, .84, .88, and .89 at each administration.

## Functional Impairment

Staff Report. Program staff's report of resident's functional impairment was measured using the Functional Impairment Scale for Children and Adolescents (FISCA, Frank & Paul, 1995a) at both 1.5 and 3 months post admission. The FISCA is a 183-item questionnaire measuring child and adolescent impairment in 8 different domains of functioning (e.g., school, home, community, thinking, undercontrolled behavior, moods, self-harm, and substance abuse). Program staff reported on each resident's functioning in 4 of the domains. Four domains were eliminated because they were not relevant to residents who had been incarcerated (i.e., substance abuse, school, home, and community). FISCA items use a true-false, likert, or multiple-choice format and are geared to readers with a 6<sup>th</sup> grade education or higher. Staff typically completed the questionnaire in 15-20 minutes.

Scoring criteria, keyed to specific items on the questionnaire, defined impairment as mild, moderate, and severe. Impairment levels within each area are defined by several different criteria, although meeting any one criterion within a level will satisfy the requirements for that particular level. Scores for each impairment area reflect the highest level of impairment met by the respondent. Impairment criteria for scoring the FISCA are based on

modified and abbreviated version of the Child and Adolescent Functional Assessment Scale (CAFAS, Hodges, 1994; Hodges & Gust, 1995).

Validity studies for the FISCA provide support for the measure's construct, discriminant, and predictive validity. Impairment on the FISCA correlated with other measures of child impairment (Child Global Assessment Scale, Shaffer, Gould, Brasic, Ambrosini, Fisher, Bird, Aluwahlia, 1983; Columbia Impairment Scale, Bird, Shaffer, Fisher, & Gould, 1993), discriminated between inpatients and outpatients, and predicted length of hospital stay and hospital recidivism (Frank, Paul, Marks, & VanEgeren, under review; Paul, 1997).

Adolescent Report. Resident's self report of their functioning at admission and 3 months post admission was measured using the Youth Self Report Form of the Functional Impairment Scale for Children and Adolescents (YSR FISCA, Frank & Paul, 1995b). The YSR FISCA uses the same items as the adult report form although the measure was reworded to simplify the language. The scale is scored using the same criteria and domains as the adult form. At the time of admission, the adolescents answered questions about their functioning during the previous 3 months in all 8 domains. At 3 months following admission, they reported on their functioning for the previous 3 months in 4 domains only (i.e., thinking,

undercontrolled behavior, moods, and self-harm) because the other 4 of the domains were not relevant to functioning during incarceration (i.e., home, school, community, and substance abuse).

A pilot study (cf Frank et al., 1998) comparing FISCA scores from parents with the adolescent's scores on the FISCA-YSR demonstrated relatively good agreement. Correlations from 114 adolescent/parent pairs ranged from .43 to .66.

### Behavior Problems

Staff Report. Program staff used the Child Behavior Checklist (CBCL; Achenbach, 1991a) to rate the resident's behavior problems at 1.5 months and 3 months following admission to the facility. (Appendix C). The CBCL is a parent-completed rating scale for children ages 4 to 18. It contains 118 items describing behavior problems and 20 items describing social competence. Only the behavior problem items were used in this study. The CBCL asks respondents to describe the child now and within the past 6 month by rating each of the behavior problems as not true, somewhat or sometimes true, or very true or often true. In order to make the time frame of this measure consistent with the one used with the FISCA, respondents were asked to rate the resident's behavior now and for the past

1.5 months at 1.5 and 3 months after admission. While the CBCL was designed to be completed by parents, a full-time program staff member from the day and afternoon shift completed the CBCL based on their interactions with and observations of the residents.

The CBCL is comprised of 8 syndromes: Withdrawal, Somatic Complaints, Anxious/Depressed, Attention Problems, Thought Problems, Social Problems, Delinquent Behavior, and Aggressive Behavior. Items from the syndromes are combined to form two broad scales for Internalizing (Withdrawal, Somatic Complaints, and Anxious/depressed) and Externalizing problems (Aggression and Delinquency). In addition, all reported behavior problems are combined to form a Total Behavior Problem score.

The CBCL manual describes extensive evidence for the reliability of the CBCL. Reliability data was provided separately for children ages 4 to 11 and 12-18. Internal reliability of the behavior problem scales using Cronbach's alpha ranged from .62 (Thought Problems; boys 4-11) to .92 (Aggressive Behavior; entire sample of girls and boys). Alphas for both the Externalizing and Internalizing scales were .93 and .89, respectively. The test-retest reliability of the behavior problem scales over a one-week interval was .72.

The current (1991) version of the CBCL is based on a well-validated earlier version (Achenbach & Edelbrock, 1983). Validity studies demonstrate convergent and discriminant validity. The CBCL has been shown to classify effectively the different behavioral patterns of juvenile offenders (Brannon & Williams, 1986). In addition, the CBCL discriminates between referred and non-referred children (Achenbach, 1991a).

Adolescent Report. Residents used the Youth Self Report (YSR; Achenbach, 1991b) to rate their problem behaviors at admission and 3 month later (Appendix D). The YSR is a self-report measure for adolescents ages 11-18. The questionnaire contains 103 specific behavior problem items and 17 social competence items. Only the behavior problem items were used in this study. The YSR was developed as a self-report version of the CBCL, and the two measures have 89 items in common. The YSR behavior problem section has the same scoring and factor structure as the CBCL. The YSR asks respondents to describe themselves now and within the past 6 month by rating each of the behavior problems as not true, somewhat or sometimes true, or very true or often true. In order to make the time frame of this measure consistent with the FISCA-YSR, at admission adolescents were asked to rate their behavior over the past 3 months and for

the 3 months period since admission.

The YSR manual provided sufficient evidence of reliability. Internal reliability of the behavior problem scales using Cronbach's alpha ranged from .59 (Withdrawn; boys and girls) to .90 (Anxious/depressed; girls). Alphas for both the Externalizing and Internalizing scales were .89. The test-retest reliability of the behavior problem scales over a one-week interval was .72.

Like the CBCL, the current version of the YSR is based on a well-validated earlier version (Achenbach & Edelbrock, 1987). Validity studies based on the new version demonstrated convergent and discriminant validity. The YSR discriminated children referred for treatment from non-referred children (Achenbach, 1991b). In addition, the YSR scales moderately correlated with similar scales on the CBCL and the Teacher's Report Form (Stanger & Lewis, 1993).

Staff Behavioral Observations. Staff used the Child Behavior Rating Form-Revised (CBRF-R; Van Egeren, 1996) to rate resident's behavior problems. (Appendix E). The CBRF-R is a 27-item checklist that asks raters to check off all problem behaviors observed and then rate the behaviors using a 3-point scale (1=mild problem, 2=moderate problem, 3=severe problem). The CBRF-R is rated by team supervisors as part of

their weekly progress notes and summarizes behaviors for the preceding week.

The CBRF-R is comprised of five problem behavior scales (19 items) and three clinically relevant scales (8 items). The five problem behavior scales consist of Oppositional (4 items), Attention Problems (3 items), Overactivity (3 items), Withdrawal/depression (6 items), and Anxiety (3 items). The three clinical scales included to assess clinically relevant content areas are Aggression (3 items), Self-harm (2 items), and Thought Problems (3 items). In addition, three scales can be combined to form an externalizing factor (Oppositionalism, Attention Problems, and Overactivity).

The CBRF-R is a modified version of the Child Behavior Rating Form (Edelbrock, 1985) which was a 65 item measure of child behavior problems and positive behavior. The CBRF-R was revised in order to limit redundancy, clarify meaning, and add clinically relevant information. In addition, the directions and format were revised to accelerate the rating process (e.g., the CBRF-R is rated on a 3 point scale rather than the 4 point scale use for the original CBRF).

Van Egeren (1996) provided evidence for the reliability of the CBRF-R using daily ratings over a period of weeks. Internal reliability of the five

behavior problem scales using Cronbach's alpha ranged from .67 (Anxiety) to .90 (Oppositionalism). Alpha for the Externalizing factor was .89. The test-retest reliability of the behavior problem scales over a two-week interval ranged from .11 (Anxiety) to .75 (Overactivity). Interrater reliability was examined using trained student pairs and student/program staff pairs. Interrater reliability for student rater pairs ranged from .41 to .84 (except for anxiety for which one set of raters observed none of the targeted behaviors, so reliability could not be estimated). Pairs consisting of one student rater and one program staff member resulted in lower coefficient (.30 to .61, except for attention problems which averaged .16). Internal reliability for this study ranged from .12 (anxiety) to .94 (oppositionalism) for the behavior problems scales and .00 (self harm) to .59 (aggression) for the clinical scales.

Validity studies by Van Egeren (1996) demonstrated concurrent and predictive validity. She found that the scales related as expected to each other and to other measures of child behavior problems (e.g., CBCL and YSR). In addition, her data supported a predicted positive relationship between the CBRF-R and the patient length of hospital stay.

## Procedure

At the time of admission, the residents completed self-report measures assessing trait reactance, functional impairment, and behavior problems as part of the program's routine assessment procedures. Information obtained from these questionnaires is used for diagnosis and treatment planning. (See Table 4 for detailed timeline.)

At approximately six weeks after admission and prior to gathering information beyond the initial intake assessment, adolescents were asked to give informed assent for participation in the study (Appendix F). They were given an assent agreement that outlines the questionnaires they would be asked to complete, the purpose of the study, and the procedures ensuring confidentiality. They were informed that they did not have to participate in the study and told that they could stop participation at any time during the study. They were assured that a decision not to participate in the study would not affect the treatment they received in the program. They were given the opportunity to receive feedback about their progress and told that they could be informed about the results of the study if they were interested. Twenty-nine of the thirty residents signed the informed assent agreement. Only one resident declined to participate. While the one nonparticipant had a higher IQ than the average participant and reported on the Achenbach

fewer problems prior to admission, he did not differ in regard to age or trait reactance.

Case workers of adolescents assenting to participate were contacted to give informed consent. (All adolescents are wards of the court and a caseworker is appointed as their legal guardian.) Caseworkers were contacted by phone and informed about the study. If they gave informed consent, a consent form was faxed to them and they faxed back a signed consent agreement. (Appendix G). In seven cases, the caseworker requested that the resident's parents be contacted to be informed about the study and to give permission for the resident to participate. All caseworkers and parents contacted gave permission for the resident to participate in the study.

All residents who signed the assent agreement and whose caseworker signed the informed consent participated in the remainder of the study. Demographic information was gathered from the residents' medical record. Residents completed all questionnaires in their school classrooms. If residents had difficulty reading or concentrating, they were given the option of having the questionnaires read aloud to them individually or in small groups. Eight of the 29 residents requested that the questionnaires be read to them. These residents were diagnosed as either mentally retarded or

learning disabled.

Approximately 7 weeks (1.5 months) after admission, the residents completed measures of both trait and state reactance. Every additional two weeks, residents completed the state reactance measure (i.e., at 9, 11, and 13 weeks post admission). Before completing the state reactance measure, residents were instructed to report on how they were feeling at the time of testing and informed that they should not try to remember what they answered in the past. Three months after admission, residents again completed questionnaires assessing trait reactance, functional impairment, and behavior problems.

One full-time program staff member from each shift (day and afternoon) also completed questionnaires assessing functional impairment and behavior problems for each resident 1.5 and 3 months after the residents' admission to the program. The staff members were paid their normal hourly rate to complete these questionnaires after work hours. In addition, each team supervisor completed weekly summaries of residents' behaviors as part of the standard program progress notes. Each team supervisor used the CBRF-R to rate the occurrence of behavior problems that occurred during the previous week. These ratings were used as another measure of residents' behavior during the last 1.5 months of the study.

Members of the research team transformed information from the residents' charts, residents' questionnaires, and staffs' questionnaires into numbers that were entered into computers along with code numbers to identify the resident. By necessity, the research staff were initially aware of the residents' names. However, all research staff signed and were bound by the Center's existing confidentiality agreement. Only the computer data files were removed from the center. Assessment protocols and charts were never removed from the center grounds by any person for the purpose of research. All information collected on residents was entered into the computer and identified by a two digit code.

Table 4

Timeline for Data Collection

| <u>Time</u>             | <u>Resident Measures</u>                                                                                        | <u>Staff Measures</u>                                                                                     |
|-------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Admission<br>(0 Weeks)  | Behavior for past 3 months:<br>Functional Impairment<br>Behavior Problems<br>Trait Reactance                    |                                                                                                           |
| 7 Weeks<br>(1.5 Months) | Informed Assent<br>Trait Reactance<br>State Reactance                                                           | Informed Consent from FIA<br>Behavior for past 1.5 months:<br>Functional Impairment<br>Behavior Problems  |
| 8 Weeks                 |                                                                                                                 | Child Behavior Rating Form                                                                                |
| 9 Weeks                 | State Reactance                                                                                                 | Child Behavior Rating Form                                                                                |
| 10 Weeks                |                                                                                                                 | Child Behavior Rating Form                                                                                |
| 11 Weeks                | State Reactance                                                                                                 | Child Behavior Rating Form                                                                                |
| 12 Weeks                |                                                                                                                 | Child Behavior Rating Form                                                                                |
| 13 Weeks<br>(3 Months)  | Behavior for past 3 months:<br>Functional Impairment<br>Behavior Problems<br>Trait Reactance<br>State Reactance | Behavior for past 1.5 months:<br>Functional Impairment<br>Behavior Problems<br>Child Behavior Rating Form |

## RESULTS

Table 5 shows the ranges, means, and standard deviations for trait and state reactance at all time points. The scores for trait reactance at all three time points were slightly higher but were within one standard deviation of scores reported for a non-incarcerated inpatient adolescents sample (Frank et al., 1998).

Table 5

### Ranges, Means, and Standard Deviations for Trait and State Reactance

| <b>Trait Reactance</b> |           |      |     |
|------------------------|-----------|------|-----|
|                        | Range     | Mean | SD  |
| Time 1                 | 1.86-3.43 | 2.62 | .39 |
| Time 2                 | 1.82-3.79 | 2.64 | .45 |
| Time 3                 | 1.82-3.25 | 2.56 | .33 |
| <b>State Reactance</b> |           |      |     |
| Time 1                 | 1.25-3.75 | 2.15 | .63 |
| Time 2                 | 1.25-3.63 | 2.28 | .67 |
| Time 3                 | 1.00-4.00 | 2.30 | .78 |
| Time 4                 | 1.00-3.63 | 2.02 | .73 |

### Hypothesis 1: Comparing the Stability of Trait and State Reactance

Several analyses indicated the greater stability of trait reactance compared to state reactance. In Figure 1 pictorial plots of each resident's reactance overtime indicated that trait reactance was relatively stable over three points in time, with most individual plots approaching straight lines with slopes of zero. In contrast, state reactance was relatively unstable over four points in time, with many individuals deviating considerably from their own mean. Relatedly, mean standard deviations for the two types of reactance differed significantly ( $t(28)=-4.9, p<.001$ ). As can be seen in Figure 2, the range of standard deviations for state reactance (.06 to 1.16) overlapped with, but exceeded the range of standard deviations for trait reactance (.02 to .78). The great majority (90%) of standard deviations for trait reactance were below .26, whereas for state reactance the majority (59%) exceeded .26.

Repeated measures ANOVA's assessed whether changes in trait and state reactance were statistically significant. The F-test for the within subjects factor for trait reactance (measured at three time points) was not significant ( $F=1.34, df(2,52), p=.27$ ). However, the F-test for the four time points of state reactance resulted in a statistical trend ( $F=2.26, df(3,84), p=.09$ ) with significant differences between Times 2 and 3 ( $p<.03$ ) and



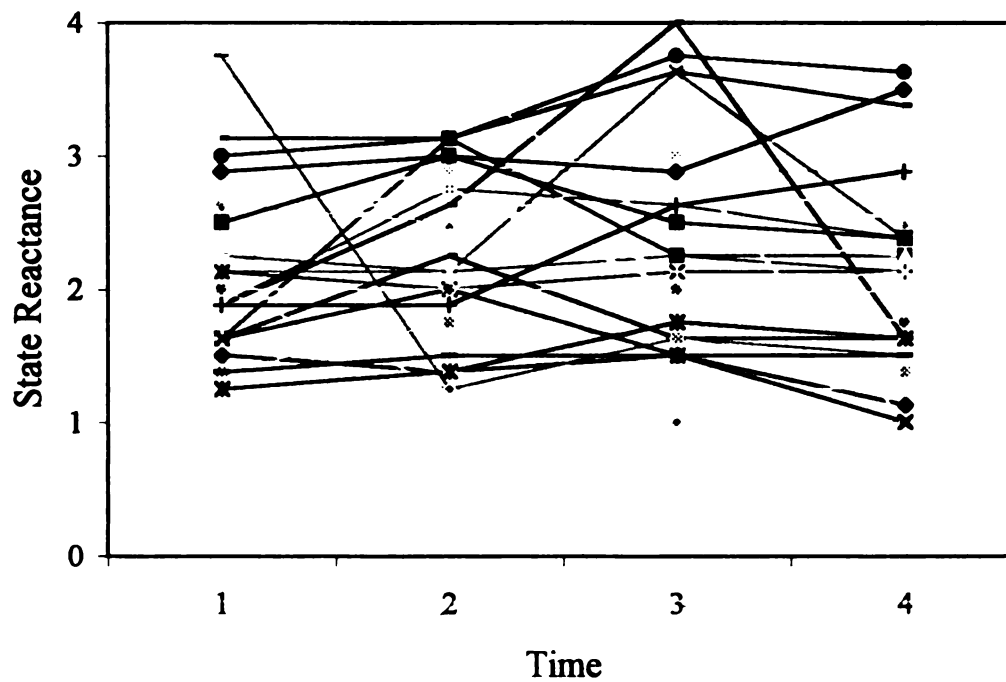
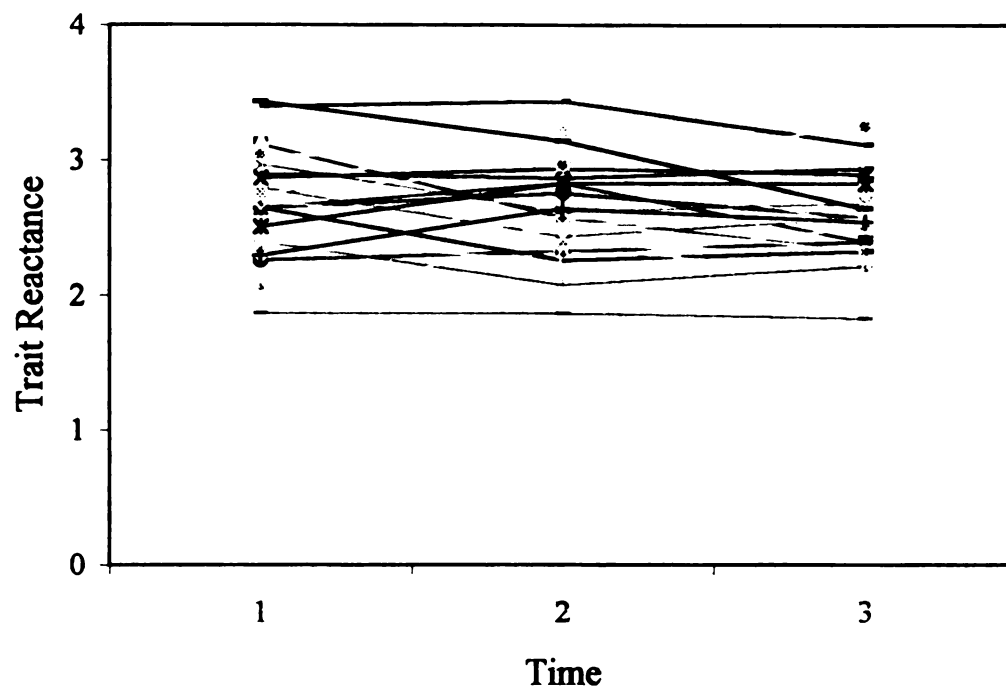


Figure 1

Trait Reactance at Time 1, 2, and 3 and State Reactance at Time 1, 2, 3, and 4 for All Participants in the Study

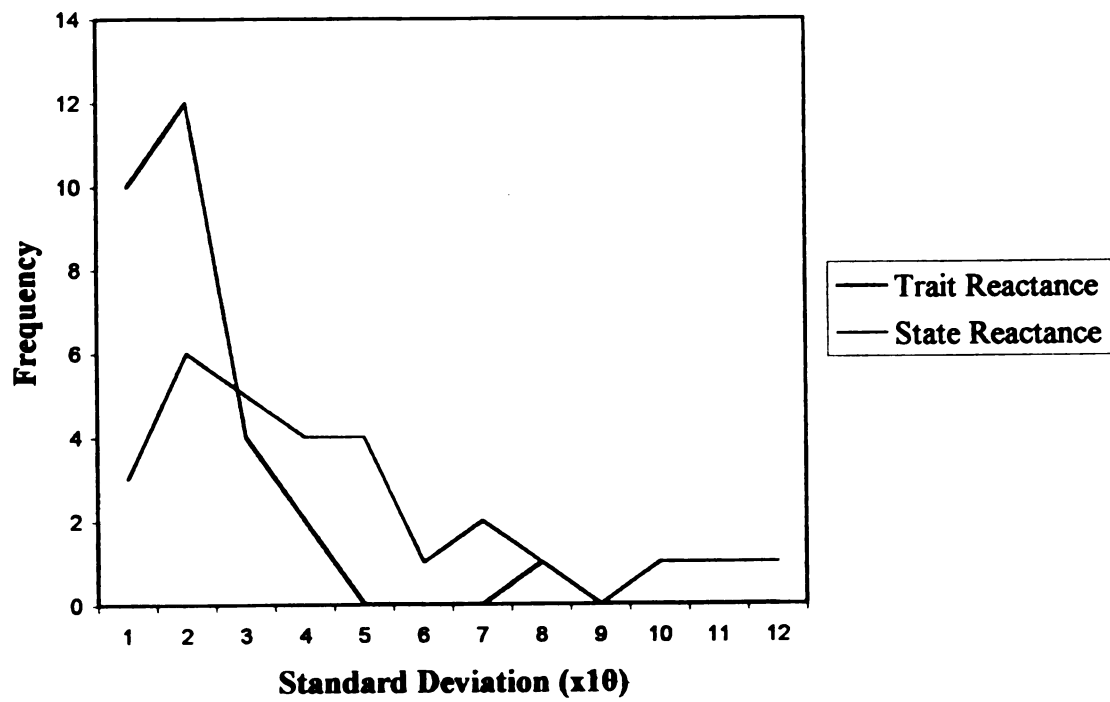


Figure 2

Distributions of the Standard Deviations for Trait and State Reactance

Times 3 and 4 ( $p < .02$ ). As can be seen in Table 6, intercorrelations among the trait reactance scores at each time point (range = .73 to .81; mean = .77) generally are larger and do not overlap with the distribution of intercorrelations among state reactance at each time point (range = .42 to .67; mean = .55).

In sum, these data supported Hypothesis 1. The plots of changes in trait and state reactance, the significantly narrower distribution of standard deviations of trait reactance as compared to state reactance, and the generally higher correlations among measures of trait reactance as compared to state reactance over time indicated the greater stability of trait reactance as compared to state reactance.

### Hypothesis 2: Evaluating the Relationship Between Trait and State Reactance

Hypothesis 2 predicting that trait reactance and state reactance would be moderately correlated and that trait reactance group classifications would be related to state reactance group classifications also was supported by the data. As can be seen in Table 7, half of the correlations assessed at different time points were statistically significant, with the mean scores for trait and state reactance (averaged over time) correlating significantly ( $r = .45$ ,  $p < .05$ ).

Table 6

Intercorrelations Among Trait and State Reactance and the Means and Standard Deviations for Trait and State Reactance

| <b>Trait Reactance</b> | Time 1           | Time 2           | Time 3           |                  |
|------------------------|------------------|------------------|------------------|------------------|
| Time 1                 | 1.00             |                  |                  |                  |
| Time 2                 | .81 <sup>c</sup> | 1.00             |                  |                  |
| Time 3                 | .73 <sup>c</sup> | .76 <sup>c</sup> | 1.00             |                  |
| Trait                  | .92 <sup>c</sup> | .95 <sup>c</sup> | .88 <sup>c</sup> |                  |
| <b>State Reactance</b> | Time 1           | Time 2           | Time 3           | Time 4           |
| Time 1                 | 1.00             |                  |                  |                  |
| Time 2                 | .50 <sup>b</sup> | 1.00             |                  |                  |
| Time 3                 | .42 <sup>a</sup> | .67 <sup>c</sup> | 1.00             |                  |
| Time 4                 | .44 <sup>a</sup> | .59 <sup>c</sup> | .67 <sup>c</sup> | 1.00             |
| State                  | .70 <sup>c</sup> | .84 <sup>c</sup> | .87 <sup>c</sup> | .84 <sup>c</sup> |

Note. Trait = Mean of Trait Reactance at Time 1, 2, and 3; State = Mean of State Reactance at Time 1, 2, 3 and 4.

<sup>a</sup>= p<.05, <sup>b</sup> = p<.01, <sup>c</sup> = p<.001.

Table 7

Intercorrelations Among State Reactance and Trait Reactance

|              | Trait Time 1     | Trait Time 2     | Trait Time 3     | Trait            |
|--------------|------------------|------------------|------------------|------------------|
| State Time 1 | .32              | .51 <sup>b</sup> | .40 <sup>a</sup> | .48 <sup>b</sup> |
| State Time 2 | .43 <sup>a</sup> | .19              | .31              | .30              |
| State Time 3 | .46 <sup>a</sup> | .28              | .52 <sup>b</sup> | .42 <sup>a</sup> |
| State Time 4 | .31              | .14              | .40 <sup>a</sup> | .51 <sup>b</sup> |
| State        | .45 <sup>a</sup> | .33              | .51 <sup>b</sup> | .45 <sup>a</sup> |

Note. Trait = Mean of Trait Reactance at Time 1, 2, and 3.

State = Mean of State Reactance at Time 1, 2, 3 and 4.

<sup>a</sup> =  $p < .05$ , <sup>b</sup> =  $p < .01$ , <sup>c</sup> =  $p < .001$ .

Classification of Trait and State Reactance Groups

Different patterns of change and stability were used to classify residents into trait and state reactance groups. All residents whose scores for state reactance remained within one standard deviation of the sample mean were placed in the Moderate State Reactance Group (SRG;  $n=10$ ). If state reactance was below the sample mean at all time points, and one standard deviation below the sample mean for at least one time point, the resident was placed in the Low SRG ( $n=7$ ). Alternatively, if state reactance

was above the sample mean at all time points and at least one standard deviation above the mean for at least one time point, the resident was placed in the High SRG ( $n=5$ ). The remaining residents were placed in an Unstable SRG which was not anticipated a priori, but fit the data for a significant minority of participants ( $n=7$ ). In this group, state reactance at one or more time points was at least one standard deviation above or below the sample mean and at one or more time points shifted to the opposite side of the mean. Figure 3 shows the plots of the four state reactance groups.

Residents were divided into trait reactance groups (TRG) using the same rules as state reactance. Five residents were classified in the Low TRG, fifteen in Moderate TRG, and eight in the High TRG. Only one resident met criteria for the Unstable TRG (compared to seven in the unstable state reactance group).

Table 8 shows the crosstabulation of the TRG's and SRG's. As expected trait reactance restricted the range of state reactance. Low trait reactant residents fell either in the Low or Moderate SRG's with none in the High SRG. The Moderate trait reactant residents were found in all four SRG's. With the exception of one resident in the Moderate SRG, all High trait reactant residents were either in the High or Unstable SRG's. The one Unstable trait reactant resident was also in the Unstable SRG suggesting

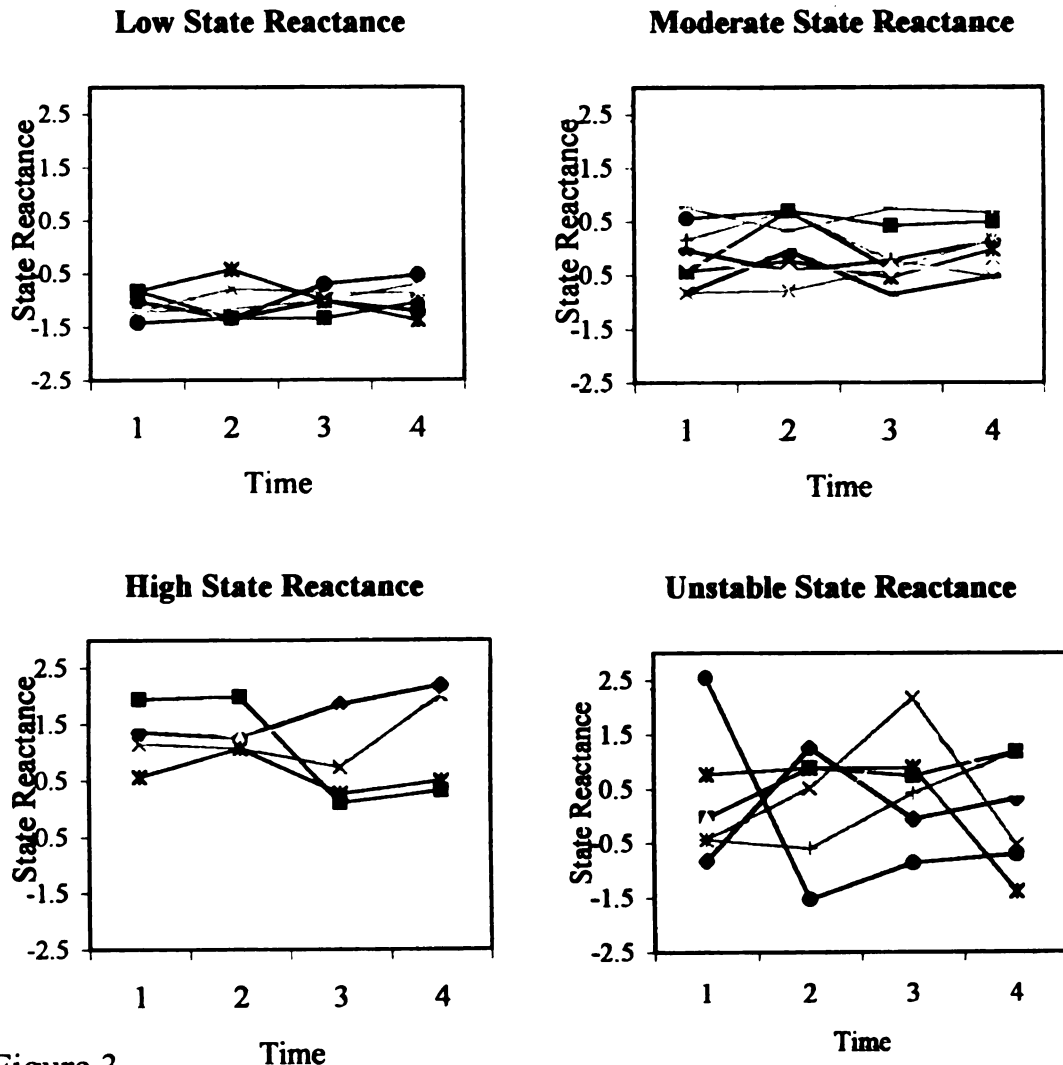


Figure 3

State Reactance at Time 1, 2, 3, and 4 for Low, Moderate, High, and Unstable State Reactance Groups

that this resident's responses may have been random on both measures and hence of questionable validity. A significant Chi-square ( $\chi^2(9)=18.31$ ,  $p<.03$ ) indicated that the crosstabulation between trait and state reactance would not be expected by chance.

Table 8

Crosstabulation for Trait and State Reactance

| Trait Reactance Groups (TRG) | State Reactance Groups (SRG) |          |      |          |       |
|------------------------------|------------------------------|----------|------|----------|-------|
|                              | Low                          | Moderate | High | Unstable | Total |
| Low                          | 3                            | 2        |      |          | 5     |
| Moderate                     | 4                            | 7        | 1    | 3        | 15    |
| High                         |                              | 1        | 4    | 3        | 8     |
| Unstable                     |                              |          |      | 1        | 1     |
| Total                        | 7                            | 10       | 5    | 7        | 29    |

Hypothesis 3: Investigating State Reactance as a Moderator Between  
Trait Reactance and Treatment Progress

Collapsing the Reactance Groups

Crosstabulations of the TRG's and SRG's resulted in six empty cells (Table 8). Accordingly, the one subject exhibiting unstable trait and unstable state reactance was excluded from further analyses. In addition, the Low and Moderate SRG's were collapsed because the distinction between low and moderate state reactance was not essential for testing the hypotheses and preliminary analyses indicated that the two groups had similar patterns of change. The resulting design is a three TRG's (Low, Moderate, and High) by three SRG's (Low/moderate, High, and Unstable) matrix with 28 subjects and two empty cells (see Table 9).

Table 9

Crosstabulation for Trait and State Reactance Using Revised Classifications

| Trait Reactance Groups | State Reactance Groups |      |          |       |
|------------------------|------------------------|------|----------|-------|
|                        | Low/Mod.               | High | Unstable | Total |
| Low                    | 5                      |      |          | 5     |
| Moderate               | 11                     | 1    | 3        | 15    |
| High                   | 1                      | 4    | 3        | 8     |
| Total                  | 17                     | 5    | 6        | 28    |

### Revising the Specific Predictions for Hypothesis 3

Due to the observed (as opposed to expected) distribution of residents in the trait and state reactance groups, it was not possible to fully test the specific predictions for Hypothesis 3 as originally stated. In particular, no predictions could be made about the Low TRG because all of these residents were classified as one and only one SRG (i.e., Low/moderate). In addition, no predictions could be made about the combination of moderate trait and high state reactance or of high trait and low/moderate state reactance because in each case only one resident could be classified as such.

Finally, the nature of the Unstable SRG needed to be considered before specific predictions could be revised. The distribution of state reactance across TRG's implied that unstable state reactance is an intermediary between moderate and high state reactance. In particular, the High TRG was more likely to display unstable rather than moderate state reactance suggesting that unstable state reactance is a higher level of reactance than moderate state reactance. In contrast, the Moderate TRG was more likely to display unstable state reactance than high state reactance suggesting that Unstable state reactance is a lower level of reactance than high state reactance. Unstable state reactance may represent a reduction in expected state reactance for the High TRG and an increase in expected state

reactance for the Moderate TRG. If this interpretation of the data is accurate, the unstable state reactance should have different implications for treatment progress for the Moderate and High TRG's.

Accordingly, specific predictions regarding the moderating effects of state reactance on the relationship between trait reactance and treatment progress were restated as follows:

1. When trait reactance is high and state reactance is unstable (relatively lower), treatment progress will be better than when trait reactance is high and state reactance is also high.
2. When trait reactance is moderate and state reactance is also moderate or lower (i.e., low/moderate), treatment progress will be better than when trait reactance is moderate and state reactance is unstable (relatively higher).

### Testing For Confounding Variables

One-way ANOVA's on a total of 29 demographic variables (see Table 10) were performed separately for trait and state reactance groups in order to identify potential confounds. No variables differed significantly among the trait reactance groups and only three variables differed significantly among state reactance groups. In particular, the Unstable SRG

Table 10

Demographic Variable Tested for Differences Among the State and Trait Reactance Groups

| Trait Reactance Group         |                                      |
|-------------------------------|--------------------------------------|
| Age                           | Number of Axis I Diagnosis           |
| Minority Status               | <u>Axis I Diagnostic Categories:</u> |
| IQ                            | Major Depressive Disorder            |
| Father Education              | Dysthymia                            |
| Mother Education              | Bipolar Disorder                     |
| <u>Medication Categories:</u> | PTSD                                 |
| <b>Time 1</b>                 | Anxiety                              |
| Time 2                        | Obsessive-Compulsive Disorder        |
| Number of Crimes Committed    | ADHD                                 |
| <u>Crime Categories:</u>      | Psychosis                            |
| <b>Status Offenses</b>        | Conduct Disorder                     |
| Probation Violation           | Oppositional Defiant Disorder        |
| Misdemeanors                  | Intermittent Explosive Disorder      |
| <b>Drug Offenses</b>          | Impulse Control Disorder             |
| Property Crimes               | Substance Abuse                      |
| Person Crimes                 | Axis V (current)                     |

Note. Variables in boldface differ significantly among state reactance groups. No variables show significance for trait reactance.

was taking more different types of medications ( $M=3.71$ ,  $SD=1.17$ ) and committed more status offenses ( $M=1.17$ ,  $SD=.41$ ) than the Low/moderate SRG ( $M=1.35$ ,  $SD=1.37$  and  $M=1.06$ ,  $SD=.24$  respectively;  $F(2,25)=3.71$  and  $F(2,25)=3.89$  respectively,  $p<.05$ ). In addition, the High SRG had more drug offenses ( $M=1.60$ ,  $SD=.55$ ) than Low/moderate ( $M=1.06$ ,  $SD=.24$ ) or Unstable ( $M=1.17$ ,  $SD=.41$ ) SRG's ( $F(2,25)=4.76$ ,  $p<.05$ ). Separate Chi-Square analyses for TRG's and SRG's investigating possible differences in race or treatment group were all insignificant.

### Reducing the Outcome Variables

Self and Staff Report. Eleven Achenbach and five FISCA scales were used to assess treatment progress. However, because a large number of residents had no initial impairment in thinking or self-harm on the FISCA, these variables were not considered per se in subsequent analyses but were included in calculations of a total impairment score. The three remaining FISCA variables include impairment in undercontrolled behavior (an aspect of Achenbach's externalizing problems), impairment in moods (an aspect of Achenbach's internalizing problems), and total impairment (an aspect of Achenbach's total problems).

Correlations between self and staff reports for the final set of outcome variables were used to assess interrater agreement (see Tables 11, 12 and 13). At Time 1 (1.5 months post admission), two staff raters reported on each resident's behavior and at Time 2 (3 months post admission) the resident himself as well as the two staff raters reported on the resident's behavior. Intercorrelations between staff reports at Time 1 were statistically significant for total problems on both the Achenbach and the FISCA and for externalizing, social, thought, and attention problems on the Achenbach. No internalizing problems showed significant intercorrelations between staff reports on either the Achenbach or the FISCA. At Time 2, intercorrelations between both staff raters were significant for all outcome variables. Intercorrelations between self report and staff report typically were not significant. The FISCA showed better interrater agreement between self and staff report than the Achenbach with agreement coefficients significant for both impairment in moods and total impairment.

Behavioral Observations. The CBRF scales were dropped as outcome variables because of a lack of internal consistency. None of the clinical scales (self-harm, aggression, thought problems) nor the anxiety problem behavior scale had acceptable alpha's (alpha's <.51). In addition, ratings of the remaining behavior problem scales (externalizing,

Table 11

Interrater Agreement at Time 1 for Achenbach and FISCAs Variables

| <b>Achenbach Variables</b>    |                     |                  |                  |                    |
|-------------------------------|---------------------|------------------|------------------|--------------------|
|                               | Rater 1/<br>Rater 2 | Mean (SD)        |                  | T-Test<br>df(28)   |
|                               |                     | Rater 1          | Rater 2          |                    |
| <u>Internalizing Problems</u> | .32                 | 17.66<br>(7.43)  | 18.90<br>(4.62)  | -.91               |
| Withdrawal                    | .36                 | 7.45<br>(4.61)   | 7.86<br>(2.29)   | -.51               |
| Somatic Problems              | .33                 | 3.24<br>(2.84)   | 4.72<br>(2.31)   | -2.66 <sup>a</sup> |
| Anxiety/Depression            | .15                 | 8.21<br>(4.44)   | 7.62<br>(2.26)   | -.68               |
| <u>Externalizing Problems</u> | .79 <sup>c</sup>    | 15.93<br>(9.99)  | 20.76<br>(9.84)  | -4.00 <sup>c</sup> |
| Delinquency                   | .56 <sup>b</sup>    | 4.21<br>(2.88)   | 5.34<br>(2.33)   | -2.45 <sup>a</sup> |
| Aggression                    | .81 <sup>c</sup>    | 11.72<br>(7.64)  | 15.41<br>(7.83)  | -4.16 <sup>c</sup> |
| Social Problems               | .65 <sup>c</sup>    | 3.97<br>(2.99)   | 5.24<br>(2.73)   | -2.84 <sup>b</sup> |
| Thought Problems              | .56 <sup>b</sup>    | 1.55<br>(2.43)   | 1.45<br>(1.74)   | .27                |
| Attention Problems            | .59 <sup>c</sup>    | 6.31<br>(3.97)   | 7.31<br>(3.85)   | -1.52              |
| Total                         | .62 <sup>c</sup>    | 51.83<br>(20.42) | 61.07<br>(17.38) | -2.99 <sup>b</sup> |
| <b>FISCA Variables</b>        |                     |                  |                  |                    |
| Moods                         | .36                 | 2.21<br>(.94)    | 2.83<br>(.63)    | -3.70 <sup>c</sup> |
| Undercontrolled               | .15                 | 2.17<br>(1.00)   | 2.48<br>(.63)    | -1.51              |
| Total                         | .55 <sup>b</sup>    | 48.28<br>(18.72) | 61.38<br>(15.97) | -4.22 <sup>c</sup> |

Note. <sup>a</sup> =  $p < .05$ , <sup>b</sup> =  $p < .01$ , <sup>c</sup> =  $p < .001$ .

Table 12

Interrater Agreement at Time 2 for Achenbach Variables

|                          | Self/<br>R 1     | Self/<br>R 2     | R1/<br>R 2       | Mean                          |                               |                                | F-Test<br>df(2,27) |
|--------------------------|------------------|------------------|------------------|-------------------------------|-------------------------------|--------------------------------|--------------------|
|                          |                  |                  |                  | Self                          | Rater 1                       | Rater 2                        |                    |
| <u>Internalizing Pr.</u> | .25              | .30              | .60 <sup>c</sup> | 21.83 <sup>y</sup><br>(15.57) | 19.10 <sup>z</sup><br>(8.38)  | 15.14 <sup>yz</sup><br>(3.73)  | 6.88 <sup>b</sup>  |
| Withdrawal               | .22              | .36              | .68 <sup>c</sup> | 5.31 <sup>x</sup><br>(3.93)   | 8.38 <sup>xz</sup><br>(3.33)  | 6.69 <sup>z</sup><br>(1.67)    | 7.88 <sup>b</sup>  |
| Somatic Pr.              | .50 <sup>b</sup> | .17              | .43 <sup>a</sup> | 5.79 <sup>xy</sup><br>(5.09)  | 2.76 <sup>x</sup><br>(2.53)   | 3.03 <sup>y</sup><br>(1.64)    | 6.84 <sup>b</sup>  |
| Anx/depression           | .12              | .25              | .47 <sup>a</sup> | 11.59 <sup>y</sup><br>(8.67)  | 9.41 <sup>z</sup><br>(4.95)   | 6.41 <sup>yz</sup><br>(2.15)   | 11.81 <sup>c</sup> |
| <u>Externalizing Pr.</u> | .06              | .20              | .61 <sup>c</sup> | 19.59<br>(10.44)              | 18.48<br>(7.88)               | 19.03<br>(5.75)                | .14                |
| Delinquency              | -.09             | .11              | .45 <sup>a</sup> | 6.34 <sup>x</sup><br>(3.95)   | 4.17 <sup>xz</sup><br>(1.95)  | 4.97 <sup>z</sup><br>(1.80)    | 3.91 <sup>a</sup>  |
| Aggression               | .17              | .30              | .64 <sup>c</sup> | 13.24<br>(7.93)               | 14.31<br>(6.75)               | 14.07<br>(4.39)                | .18                |
| Social Pr.               | .20              | .41 <sup>a</sup> | .70 <sup>c</sup> | 4.79<br>(4.05)                | 4.48<br>(2.91)                | 4.24<br>(1.83)                 | .57                |
| Thought Pr.              | .35              | .20              | .62 <sup>c</sup> | 4.72 <sup>xy</sup><br>(3.93)  | 1.31 <sup>x</sup><br>(1.73)   | 1.28 <sup>y</sup><br>(2.05)    | 11.98 <sup>c</sup> |
| Attention Pr.            | .41 <sup>a</sup> | .36              | .48 <sup>b</sup> | 7.14<br>(4.65)                | 6.59<br>(3.41)                | 5.38<br>(2.50)                 | 3.26               |
| Total                    | .23              | .31              | .67 <sup>c</sup> | 70.86 <sup>y</sup><br>(43.46) | 55.86 <sup>z</sup><br>(19.85) | 50.07 <sup>yz</sup><br>(12.13) | 5.50 <sup>b</sup>  |

Note. Anx = Anxiety, Pr. = Problems, R 1 = Rater 1, R 2 = Rater 2.

<sup>x</sup> = self report and rater 1 are significantly different, <sup>y</sup> = self report and rater 2 are significantly different, <sup>z</sup> = rater 1 and rater 2 are significantly different.

<sup>a</sup> =  $p < .05$ , <sup>b</sup> =  $p < .01$ , <sup>c</sup> =  $p < .001$ .

Table 13

Interrater Agreement at Time 2 for FISCA Variables

|          | Self/<br>Rater 1 | Self/<br>Rater 2 | Rater1/<br>Rater 2 | Mean (SD)                     |                               |                                | F-Test<br>df(2,27) |
|----------|------------------|------------------|--------------------|-------------------------------|-------------------------------|--------------------------------|--------------------|
|          |                  |                  |                    | Self                          | Rater 1                       | Rater 2                        |                    |
| Mood     | .39 <sup>a</sup> | .68 <sup>c</sup> | .60 <sup>c</sup>   | 2.34<br>(.94)                 | 2.41<br>(.87)                 | 2.14<br>(.99)                  | 2.04               |
| Ucontrol | .29              | .24              | .73 <sup>c</sup>   | 2.17<br>(.93)                 | 2.38<br>(.68)                 | 2.14<br>(.83)                  | 2.86               |
| Total    | .48 <sup>b</sup> | .43 <sup>a</sup> | .77 <sup>c</sup>   | 57.93 <sup>y</sup><br>(35.76) | 54.14 <sup>z</sup><br>(17.43) | 47.24 <sup>yz</sup><br>(21.53) | 4.17 <sup>a</sup>  |

Note. Ucontrol = Impairment in undercontrolled behavior, Mood Impairment in mood, Total = Total impairment in thinking, undercontrolled behavior, moods, and self harm.

<sup>x</sup> = self report and rater 1 are significantly different, <sup>y</sup> = self report and rater 2 are significantly different, <sup>z</sup> = rater 1 and rater 2 are significantly different. d = df (1,28). <sup>a</sup> = p<.05, <sup>b</sup> = p<.01, <sup>c</sup> = p<.001.

oppositional, attention problems, overactivity, and withdrawal/depression) differed by treatment group (see Table 14). Because each team was rated by a different rater, rater idiosyncrasies on the instrument could account for these differences. This seems likely because there were few group differences on the Achenbach or the FISCA (5 of 84 analyses). Unreliable reporting by the group leaders is also likely because the program was relatively new and group leaders had not been formally trained to use the rating scale.

Table 14

Significant Differences Between Groups for CBRF Variables

|                      | Mean (SD)                |                          |                           | F-Test, df                  |
|----------------------|--------------------------|--------------------------|---------------------------|-----------------------------|
|                      | Group 1                  | Group 2                  | Group 3                   |                             |
| <u>Externalizing</u> |                          |                          |                           |                             |
| Time 1               | .93 (.43) <sup>x</sup>   | 1.90 (.14) <sup>xz</sup> | .56 (.56) <sup>z</sup>    | 5.70 <sup>a</sup> df(2,8)   |
| Time 2               | 3.18 (1.32) <sup>y</sup> | 3.32 (.90) <sup>z</sup>  | 1.48 (1.67) <sup>yz</sup> | 3.89 <sup>a</sup> df(2,19)  |
| Time 4               | .87 (.40) <sup>x</sup>   | 1.68 (.86) <sup>xz</sup> | .61 (.90) <sup>z</sup>    | 10.24 <sup>c</sup> df(2,21) |
| Time 6               | .84 (.32) <sup>x</sup>   | 1.34 (.48) <sup>xz</sup> | .40 (.30) <sup>z</sup>    | 10.12 <sup>c</sup> df(2,18) |
| Time 7               | .57 (.37) <sup>x</sup>   | 1.59 (.61) <sup>xz</sup> | .5 (.44) <sup>z</sup>     | 10.56 <sup>c</sup> df(2,17) |
| <u>Oppositional</u>  |                          |                          |                           |                             |
| Time 2               | 1.88 (.89) <sup>y</sup>  | 2.45 (.74) <sup>z</sup>  | .57 (.80) <sup>yz</sup>   | 8.49 <sup>a</sup> df(2,19)  |
| Time 3               | 1.39 (.80) <sup>y</sup>  | 1.14 (1.06) <sup>z</sup> | .31 (.43) <sup>yz</sup>   | 4.39 <sup>a</sup> df(2,20)  |
| Time 4               | 1.36 (.73) <sup>xy</sup> | 2.50 (.63) <sup>xz</sup> | .47 (.61) <sup>yz</sup>   | 16.94 <sup>c</sup> df(2,21) |
| Time 5               | 1.78 (.83) <sup>y</sup>  | 1.72 (1.06) <sup>z</sup> | .61 (.90) <sup>yz</sup>   | 3.86 <sup>a</sup> df(2,23)  |
| Time 6               | 1.68 (.70) <sup>y</sup>  | 2.06 (.48) <sup>z</sup>  | .50 (.79) <sup>yz</sup>   | 10.25 <sup>c</sup> df(2,18) |
| Time 7               | 1.21 (.70) <sup>x</sup>  | 2.64 (.66) <sup>xz</sup> | .85 (.55) <sup>z</sup>    | 15.38 <sup>c</sup> df(2,17) |
| <u>Attention Pr.</u> |                          |                          |                           |                             |
| Time 1               | .33 (.47) <sup>x</sup>   | 1.83 (.24) <sup>xz</sup> | .40 (.37) <sup>z</sup>    | 11.19 <sup>b</sup> df(2,8)  |
| <u>Overactivity</u>  |                          |                          |                           |                             |
| Time 1               | .42 (.50)                | .83 (.24) <sup>z</sup>   | .00 (.00) <sup>z</sup>    | 5.33 <sup>a</sup> df(2,8)   |
| Time 4               | .33 (.55)                | .94 (1.04) <sup>z</sup>  | .07 (.15) <sup>z</sup>    | 3.62 <sup>a</sup> df(2,21)  |
| <u>With/Dep</u>      |                          |                          |                           |                             |
| Time 2               | .75 (.45)                | 1.20 (.68) <sup>z</sup>  | .29 (.46) <sup>z</sup>    | 4.79 <sup>a</sup> df(2,19)  |
| Time 3               | .74 (.53)                | .93 (.56) <sup>z</sup>   | .28 (.34) <sup>z</sup>    | 4.05 <sup>a</sup> df(2,20)  |
| Time 4               | .78 (.61) <sup>y</sup>   | 1.03 (.41) <sup>z</sup>  | .24 (.33) <sup>yz</sup>   | 5.61 <sup>a</sup> df(2,21)  |
| Time 6               | .60 (.46) <sup>x</sup>   | 1.27 (.75) <sup>xz</sup> | .14 (.22) <sup>z</sup>    | 7.60 <sup>b</sup> df(2,18)  |

Note. Pr. =Problems, With/Dep=Withdrawal/depression.

<sup>x</sup>= group 1 and group 2 are significantly different, <sup>y</sup> = group 1 and group 3 are significantly different, <sup>z</sup> = group 2 and group 3 are significantly different.

<sup>a</sup>= p<.05, <sup>b</sup> = p<.01, <sup>c</sup> = p<.001.

## Reactance and Changes in Outcome Variables

Analyses of data for each of the remaining outcome variables excluded residents who had a score of “0” at Time 1. These residents by definition were unable to show progress because of lack of initial pathology. Table 15 shows the number of residents excluded from further analyses for each outcome variable.

Table 15

### Number of Residents Without Pathology at Time 1

| <b>Achenbach Variables</b> |                    |                     |
|----------------------------|--------------------|---------------------|
|                            | <b>Self Report</b> | <b>Staff Report</b> |
| <u>Internalizing</u>       | 0                  | 0                   |
| Withdrawal                 | 1                  | 0                   |
| Somatic Problems           | 3                  | 1                   |
| Anxiety/Depression         | 1                  | 0                   |
| <u>Externalizing</u>       | 0                  | 0                   |
| Delinquency                | 0                  | 0                   |
| Aggression                 | 0                  | 0                   |
| Social Problems            | 2                  | 0                   |
| Thought Problems           | 3                  | 9                   |
| Attention Problems         | 2                  | 0                   |
| Total Problems             | 0                  | 0                   |
| <b>FISCA Variables</b>     |                    |                     |
| Moods                      | 3                  | 0                   |
| Undercontrol Behavior      | 1                  | 0                   |
| Total Impairment           | 1                  | 0                   |

At Time 1, scores on the outcome variables did not differ significantly among the three TRG's. Repeated measures ANOVA's were used to assess whether changes in outcomes over the thirteen weeks of the study period varied as a function of trait and state reactance (Hypothesis 3). TRG (3 levels) and SRG (3 levels) defined the between group factors and Time (of assessment, 1 or 2) defined the two levels of the within subjects or change factor. For self reports, Time 1 refers to admission with behavior reported for the 3 months prior to admission. For staff report, Time 1 refers to 1.5 months after admission with behavior reported from the time of admission. For both staff and self reports, Time 2 outcome measures were completed at 3 months post admission and described behavior since the last report (i.e., admission for self report and 1.5 months post admission for staff report). Analyses using staff reports also included Rater (1 or 2) as a within subjects factor.

Table 16 shows the results of analyses for each outcome variable based on self report. Table 17 shows the results for each variable based on staff report. Although Rater x Change interactions were significant for seven of the fourteen outcome variables, none of the Rater x TRG x Change interactions and none of the Rater x SRG x Change interactions were statistically significant. These effects are not presented in the table.

Table 16

F-tests Associated with the Trait Reactance Group x State Reactance Group  
x Change ANOVA's Using Self Report of Change

| <b>Achenbach Variables</b> |                         |      |                          |      |                          |      |                          |      |
|----------------------------|-------------------------|------|--------------------------|------|--------------------------|------|--------------------------|------|
| Outcome Variables          | Change (C)              |      | Trait (T) x C            |      | State (S) x C            |      | T x S x C                |      |
|                            | F-Test                  | df   | F-Test                   | df   | F-Test                   | df   | F-Test                   | df   |
| <u>Internalizing</u>       | <b>9.55<sup>b</sup></b> | 1,21 | <b>17.98<sup>c</sup></b> | 2,21 | <b>9.03<sup>c</sup></b>  | 2,21 | <b>7.16<sup>b</sup></b>  | 2,21 |
| Withdrawal                 | .58                     | 1,20 | <b>6.00<sup>b</sup></b>  | 2,20 | 1.21                     | 2,20 | <b>2.63<sup>t</sup></b>  | 2,20 |
| Somatic Pr                 | <b>5.95<sup>a</sup></b> | 1,18 | 1.40                     | 2,18 | .76                      | 2,18 | 1.13                     | 2,18 |
| Anx/Dep                    | <b>7.50<sup>a</sup></b> | 1,20 | <b>41.30<sup>c</sup></b> | 2,20 | <b>22.59<sup>c</sup></b> | 2,20 | <b>15.03<sup>c</sup></b> | 2,20 |
| <u>Externalizing</u>       | <b>3.11<sup>t</sup></b> | 1,21 | 2.45                     | 2,21 | .34                      | 2,21 | .14                      | 2,21 |
| Delinquency                | <b>7.42<sup>a</sup></b> | 1,21 | 1.03                     | 2,21 | .45                      | 2,21 | .89                      | 2,21 |
| Aggression                 | .16                     | 1,21 | <b>3.48<sup>a</sup></b>  | 2,21 | .51                      | 2,21 | 1.51                     | 2,21 |
| Social Pr                  | 1.92                    | 1,19 | 2.05                     | 2,19 | .53                      | 2,19 | 1.39                     | 2,19 |
| Thought Pr                 | .28                     | 1,18 | 1.66                     | 2,18 | .73                      | 2,18 | 1.75                     | 2,18 |
| Attention Pr               | .01                     | 1,19 | <b>3.77<sup>a</sup></b>  | 2,19 | 1.25                     | 2,19 | 1.00                     | 2,19 |
| Total                      | .38                     | 1,21 | <b>10.65<sup>c</sup></b> | 2,21 | <b>3.22<sup>t</sup></b>  | 2,21 | <b>3.13<sup>t</sup></b>  | 2,21 |
| <b>FISCA Variables</b>     |                         |      |                          |      |                          |      |                          |      |
| Mood                       | .01                     | 1,18 | 1.43                     | 2,18 | 1.29                     | 2,18 | <b>2.63<sup>t</sup></b>  | 2,18 |
| Undercontrol               | <b>3.08<sup>t</sup></b> | 1,20 | 1.41                     | 2,20 | .16                      | 2,20 | .57                      | 2,20 |
| Total                      | .67                     | 1,20 | 2.03                     | 2,20 | <b>3.67<sup>a</sup></b>  | 2,20 | .31                      | 2,20 |

Note. Anx/Dep = Anxiety and depression, Pr = Problems, Undercontrol = Impairment in undercontrolled behavior, Mood = Impairment in moods, Total = Impairment in thinking, undercontrolled behavior, moods, and self harm.

t = <.10, <sup>a</sup> = p<.05, <sup>b</sup> = p<.01, <sup>c</sup> = p<.001.

Table 17

F-tests Associated with the Trait Reactance Group x State Reactance Group  
x Change ANOVA's Using Staff Report of Change

| <b>Achenbach Variables</b> |            |      |                         |      |               |      |                         |      |
|----------------------------|------------|------|-------------------------|------|---------------|------|-------------------------|------|
| Outcome Variables          | Change (C) |      | Trait (T) x C           |      | State (S) x C |      | T x S x C               |      |
|                            | F-Test     | df   | F-Test                  | df   | F-Test        | df   | F-Test                  | df   |
| <u>Internalizing</u>       | .72        | 1,21 | .11                     | 2,21 | .85           | 2,21 | <b>2.97<sup>t</sup></b> | 2,21 |
| Withdrawal                 | .32        | 1,21 | .27                     | 2,21 | .70           | 2,21 | .41                     | 2,21 |
| Somatic Pr                 | 2.37       | 1,20 | 1.66                    | 2,20 | .42           | 2,20 | <b>4.02<sup>a</sup></b> | 2,20 |
| Anx/Dep                    | 2.00       | 1,21 | .64                     | 2,21 | 1.38          | 2,21 | 1.42                    | 2,21 |
| <u>Externalizing</u>       | .02        | 1,21 | .23                     | 2,21 | 1.48          | 2,21 | .67                     | 2,21 |
| Delinquency                | .60        | 1,21 | .03                     | 2,21 | 1.76          | 2,21 | .25                     | 2,21 |
| Aggression                 | .22        | 1,21 | .34                     | 2,21 | 1.21          | 2,21 | .83                     | 2,21 |
| Social Pr                  | .08        | 1,21 | <b>2.92<sup>t</sup></b> | 2,21 | 1.83          | 2,21 | 1.96                    | 2,21 |
| Thought Pr                 | .81        | 1,12 | 1.45                    | 2,12 | .53           | 2,12 | .25                     | 2,12 |
| Attention Pr               | .20        | 1,21 | .11                     | 2,21 | .11           | 2,21 | .89                     | 2,21 |
| Total                      | .00        | 1,21 | .02                     | 2,21 | 1.78          | 2,21 | 2.35                    | 2,21 |
| <b>FISCA Variables</b>     |            |      |                         |      |               |      |                         |      |
| Mood                       | .43        | 1,21 | .46                     | 2,21 | .15           | 2,21 | .117                    | 2,21 |
| Undercontrol               | 1.20       | 1,21 | <b>4.13<sup>a</sup></b> | 2,21 | .37           | 2,21 | <b>2.60<sup>t</sup></b> | 2,21 |
| Total                      | 1.03       | 1,21 | 1.51                    | 2,21 | .92           | 2,21 | .33                     | 2,21 |

Note. Anx/Dep = Anxiety and depression, Pr = Problems, Undercontrol = Impairment in undercontrolled behavior, Mood = Impairment in moods, Total = Impairment in thinking, undercontrolled behavior, moods, and self harm.

t = <.10, <sup>a</sup> = p<.05, <sup>b</sup> = p<.01, <sup>c</sup> = p<.001.

As can be seen in Table 16, there are two significant main effects for self report of change (somatic problems and delinquency) and two statistical trends (externalizing problems and undercontrolled behavior) that are not accompanied by significant 2-way or 3-way interactions. The main effect for self report of somatic problems indicates that residents developed more somatic problems over time (means  $T1 = 5.24$  and  $T2 = 6.12$ ). In contrast, the main effect for delinquency indicates that the residents showed a significant decrease in delinquent behaviors over time (means  $T1 = 10.11$  and  $T2 = 6.32$ ). In addition, statistical trends for self report of externalizing problems (means  $T1 = 24.32$  and  $T2 = 19.36$ ) and undercontrolled behavior (means  $T1 = 2.78$  and  $T2 = 2.15$ ) suggested improvement. Notably, there were no significant main effects for staff reported change.

Interaction results associated with Hypothesis 3 will be discussed separately for internalizing, externalizing, and total problems and within each of these, for self and staff report. All significant interactions are plotted using z-scores to facilitate interpretation across variables. Significant change ( $p < .05$ ) and statistical trends for change ( $p < .10$ ) are represented by straight lines, nonsignificant change by dashed lines, and non-interpretable changes (based on  $n$ 's of one) in dotted lines. Because Hypothesis 3 predicts that trait and state reactance interact in predicting

changes overtime, the relevant effects testing this hypothesis involve 3-way interactions (TRG x SRG x Change).

Internalizing Problems. Analyses of the self report data for internalizing problems resulted in two significant TRG x SRG x Change interactions (total internalizing problems and anxiety/depression problems) and two statistical trends (withdrawal problems and impairment in moods). All four 3-way interactions using self reports resulted in similar patterns within each of the TRG's and these patterns generally supported Hypothesis 3. Figures 4 and 5 show the two significant interactions (graphs of the two trends are in Appendix H). Within the High TRG (Figure 4), the Unstable SRG showed significant improvement for anxiety/depression problems ( $t(2)=4.73$ ,  $p<.05$ ; means=17.67 at T1 and 9.33 at T2) and a similar non-significant pattern of improvement for internalizing problems (means=28.33 at T1 and 19.00 at T2). In contrast, the High SRG demonstrated significant negative change over time for both internalizing and anxiety/depression problems ( $t(3)=-25.98$ ,  $p<.001$ ; means=21.50 at T1 and 29.00 at T2 and  $t(3)=-4.33$ ,  $p<.05$ ; means=12.25 at T1 and 15.50 at T2, respectively).

Within the Moderate TRG (Figure 5), the Low/moderate SRG showed a statistical trend for improvement for anxiety/depression problems ( $t(10)=1.96$ ,  $p<.10$ ; means=9.63 at T1 and 8.36 at T2) and a similar

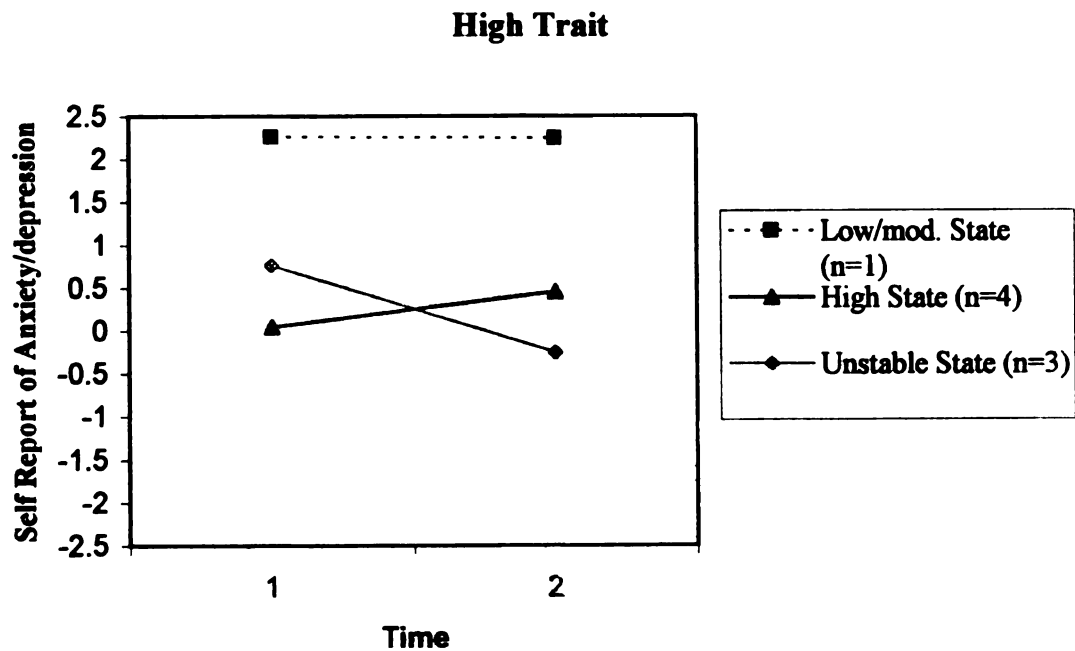
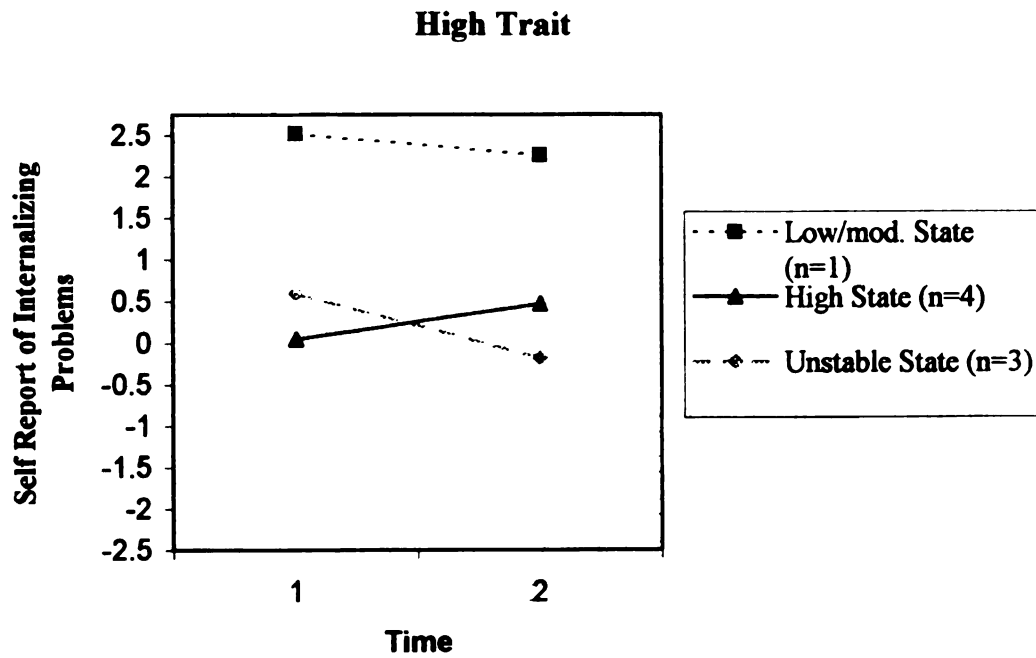


Figure 4

Interactions Between State Reactance Group and Change Within the High Trait Reactance Group for Self Report of Internalizing Problems

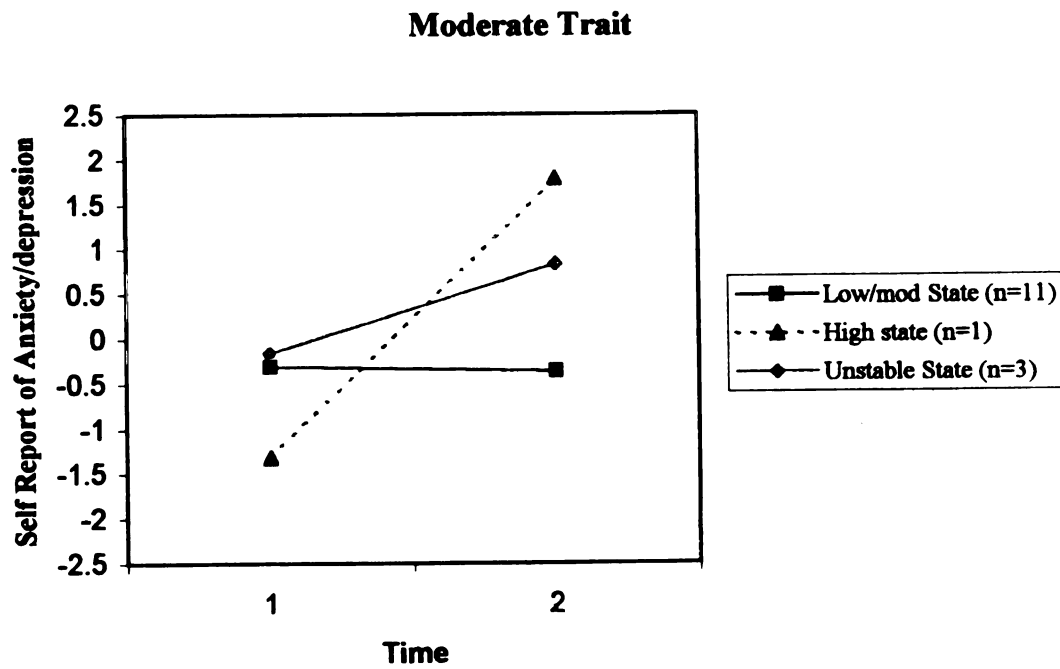
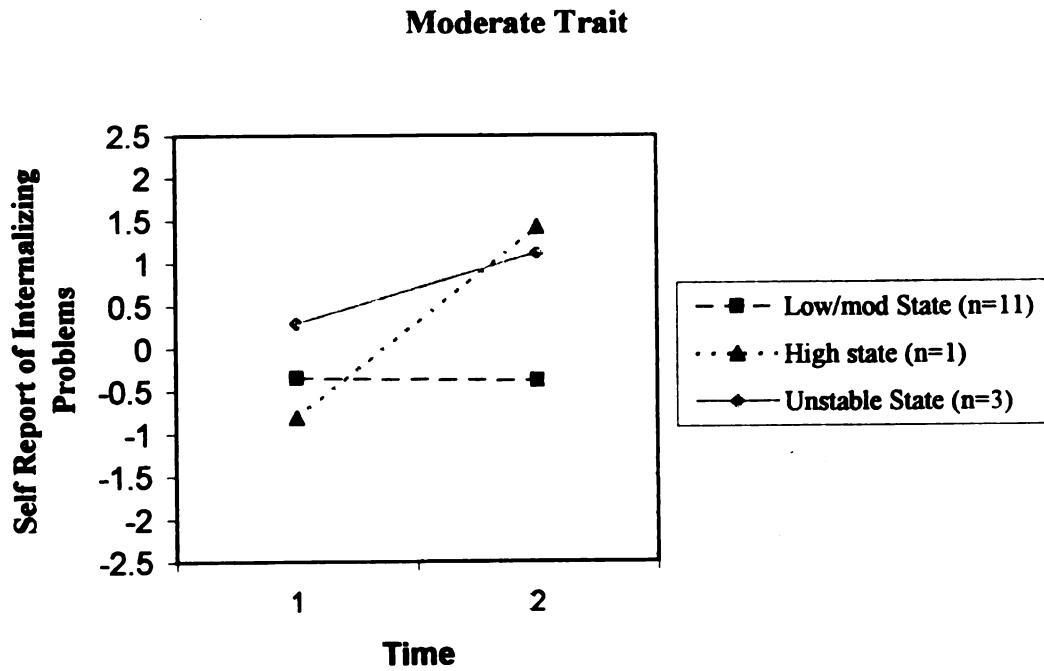


Figure 5

Interactions Between State Reactance Group and Change Within the Moderate Trait Reactance Group for Self Report of Internalizing Problems

non-significant pattern of improvement for internalizing problems (means=16.72 at T1 and 15.91 at T2). In contrast, the Unstable SRG demonstrated significant negative change over time for internalizing problems and a statistical trend for anxiety/depression problems ( $t(2)=-4.95$ ,  $p<.05$ ; means=24.67 at T1 and 39.33 at T2 and  $t(2)=-2.77$ ,  $p<.10$ ; means=10.67 at T1 and 18.67 at T2, respectively). Notably, the Low trait (and Low/moderate state) reactant group showed significant improvement over time for anxiety/depression ( $t(3)=3.29$ ,  $p<.05$ ; means=14.00 at T1 and 5.00 at T2) and a statistical trend in the same direction for internalizing problems ( $t(4)=2.31$ ,  $p<.10$ ; means=17.20 at T1 and 7.00 at T2).

Staff report data provided more mixed support for Hypothesis 3. The one significant TRG x SRG x Change interaction for staff report of internalizing problems (somatic problems; Figure 6) and the one statistical trend (internalizing problems; Appendix I) showed the same pattern.

Contrary to Hypothesis 3, within the High TRG, the High SRG showed improvement ( $t(3)=4.90$ ,  $p<.05$ , means=3.37 at T1 and 2.38 at T2) whereas the Unstable SRG demonstrated no change over time (means=3.67 at T1 and 3.33 at T2). Alternatively, and more consistent with Hypothesis 3, within the Moderate TRG, the Low/moderate SRG showed improvement ( $t(10)=3.91$ ,  $p<.01$ , means=4.64 at T1 and 2.55 at T2) whereas the Unstable

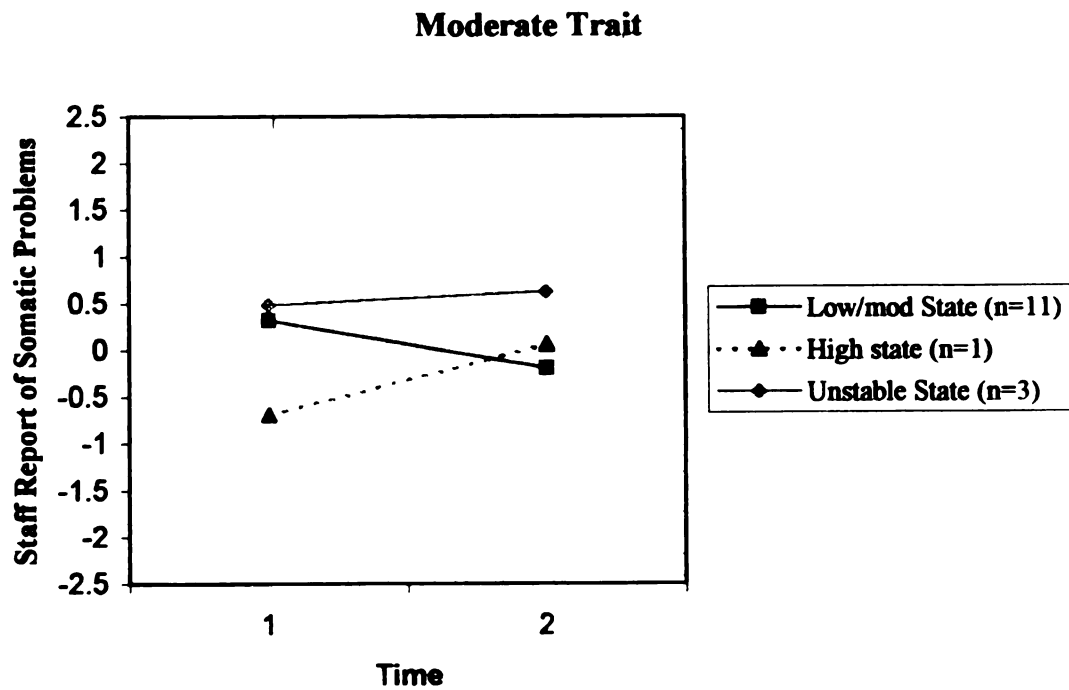
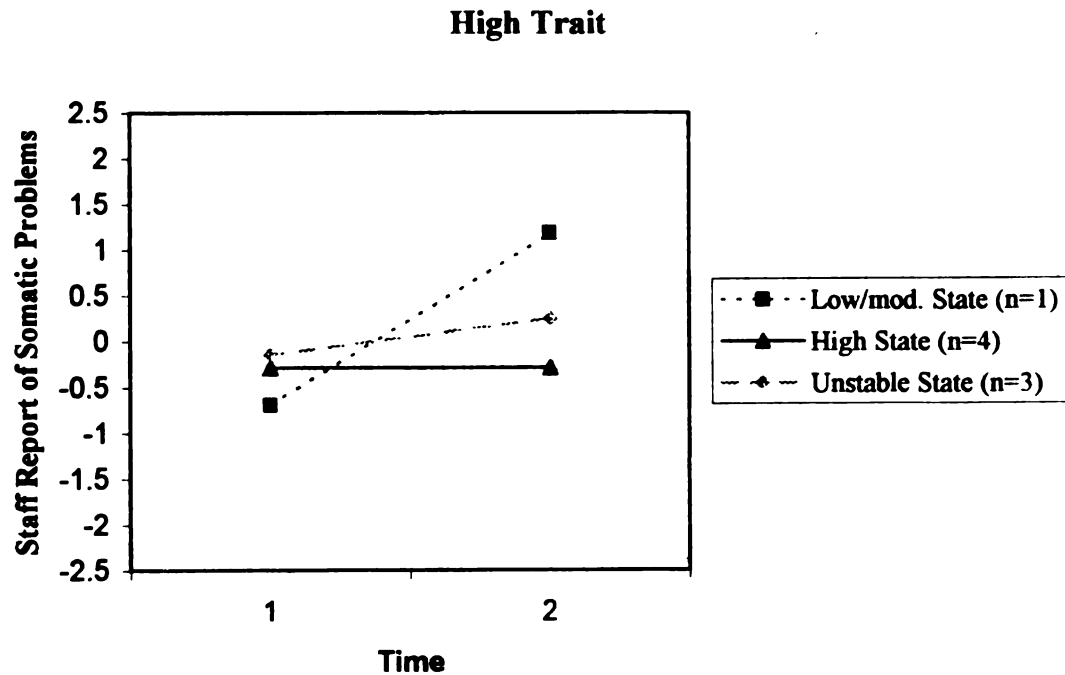


Figure 6

Interaction Between State Reactance Group and Change Within the High and Moderate Trait Reactance Groups for Staff Report of Somatic Problems

SRG only demonstrated a statistical trend for change over time ( $t(2)=3.46$ ,  $p<.10$ , means=5.00 at T1 and 4.00 at T2). Notably, the Low trait (and Low/moderate state) reactant group showed no change over time.

For the most part, the 2-way interactions (TRG x Change or SRG x Change) for internalizing problems were insignificant or else accompanied by a statistically significant 3-way interaction. The one exception, a TRG x Change interaction for self report of change in withdrawal problems, was accompanied by a statistical trend for the 3-way interaction (see Appendix H). Hence, the 2-way interaction is not discussed any further.

Externalizing Problems. There were no significant TRG x SRG x Change interactions for externalizing problems using either self or staff report. However, there were several significant findings for TRG x Change interactions. The most interesting were the two significant interactions for self reported change (Figure 7). The Low TRG showed a statistical trend for improvement in self reported aggression problems ( $T(4)=2.48$ ,  $p<.10$ , means=12.00 at T1 and 5.40 at T2) and a similar non-significant pattern for self reported attention problems (means=7.25 at T1 and 3.25 at T2). In contrast, Moderate and High TRG's showed no significant change. The one significant TRG x Change interaction for staff report of externalizing problems (i.e., impairment in undercontrolled behavior, Figure 8) differed in

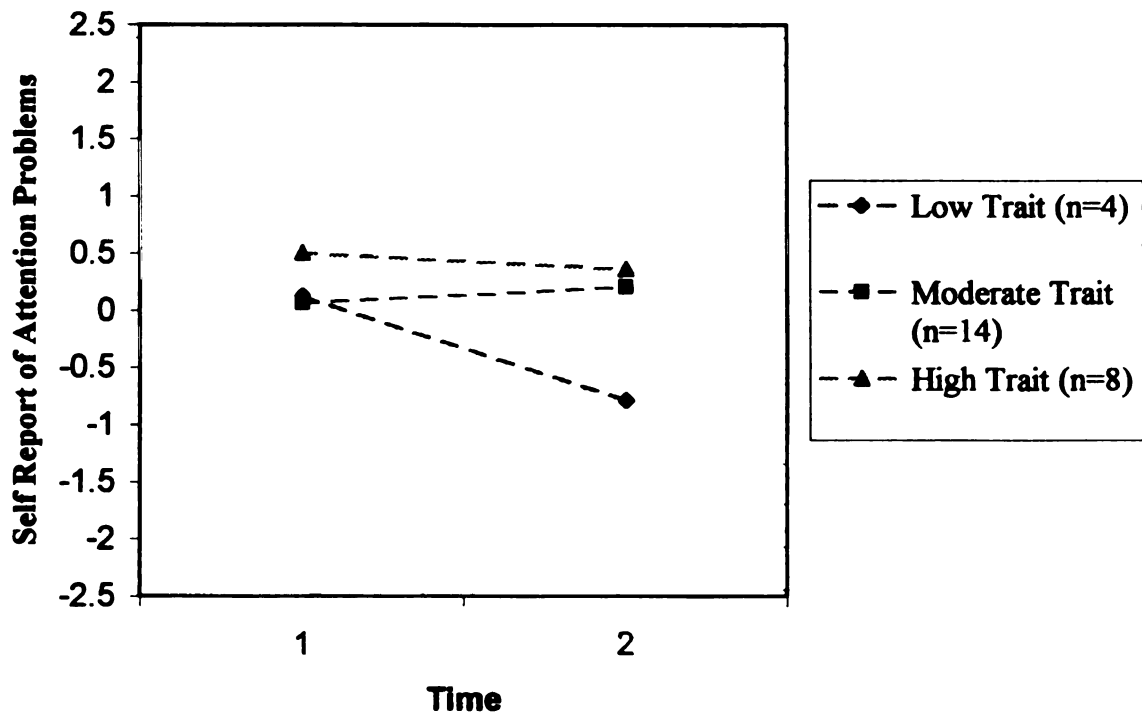
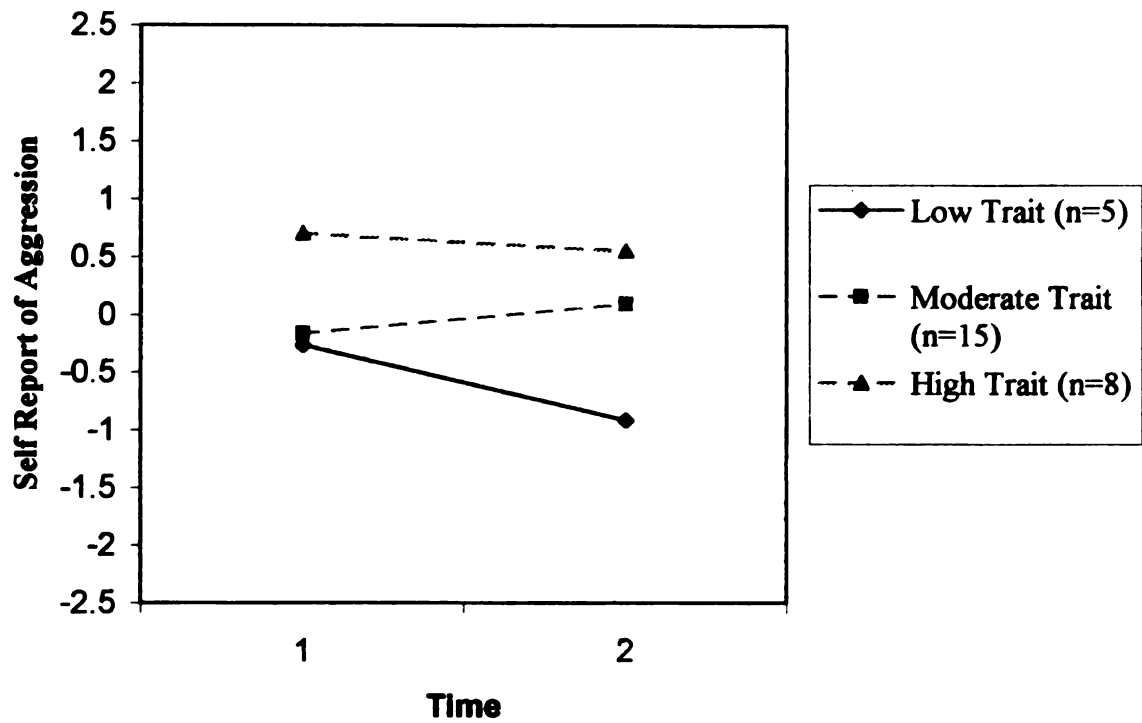


Figure 7

Interaction Between Trait Reactance and Changes in Self Report of Aggressive Problems and Attention Problems

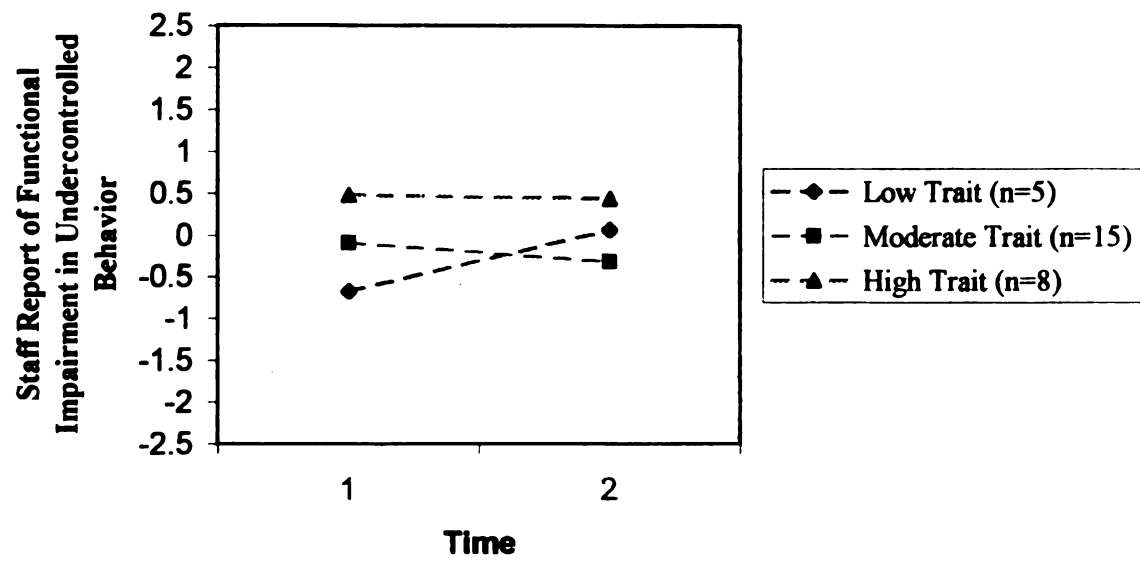


Figure 8

Interaction Between Trait Reactance and Changes in Staff Report of Impairment in Undercontrolled Behavior

pattern from that just described for self report of change in externalizing problems. However, in the case of staff reports of undercontrolled behavior, none of the changes within each of the TRG's were statistically significant. Notably, the 3-way interaction for staff reports of undercontrolled behavior showed a statistical trend (see Appendix J for graph). There were no significant SRG x Change interactions for self or staff report of externalizing problems.

Total Problems. In addition to the findings for internalizing and externalizing problems, there were two significant findings for self report (but not staff report) of overall problems. Figure 9 illustrates the significant TRG x Change interaction for total problems on the Achenbach with the Low TRG showing improvement in total problems ( $T(4)=2.45$ ,  $p<.10$ , means=62.80 at T1 and 27.00 at T2) and the Moderate and High TRG's showing no change. Notably, the 3-way interaction for this variable showed a statistical trend and was consistent with Hypothesis 3 (see Appendix K for graph). Finally, there was one significant SRG x Change interaction for self report of total impairment on the FISCA. Figure 10 shows that the Low SRG showed significant improvement in impairment over time ( $T(15)=3.32$ ,  $p<.01$ , means=75.63 at T1 and 45.63 at T2) whereas High and Unstable SRG's showed no change.

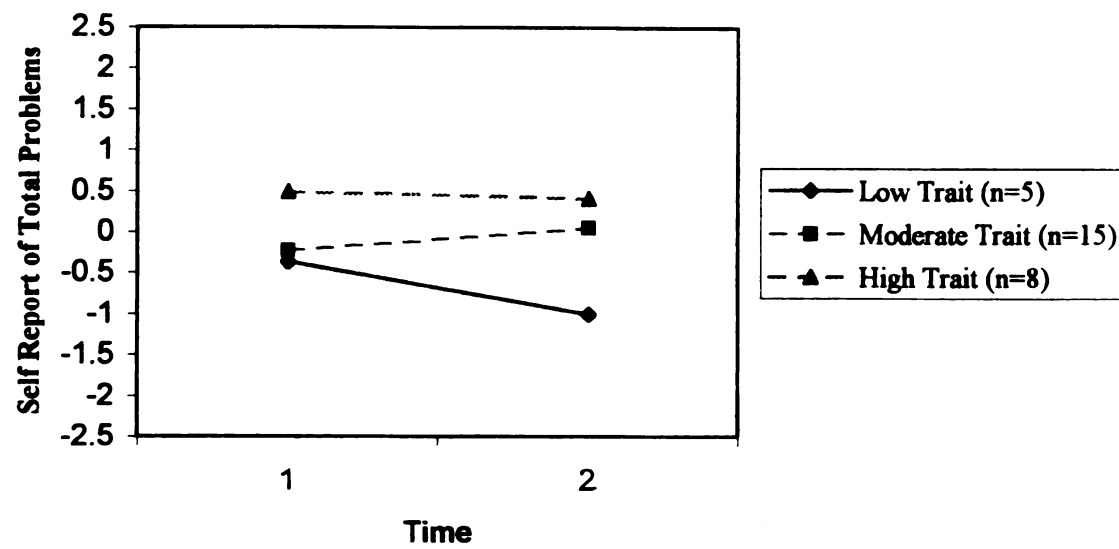


Figure 9

Interaction Between Trait Reactance and Changes in Self Report of Total Problems

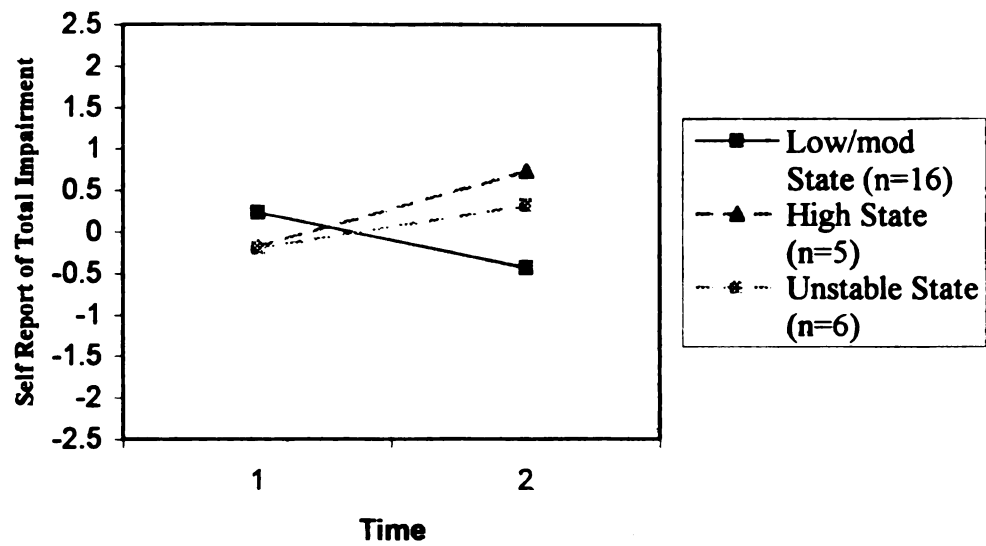


Figure 10

Interaction Between State Reactance and Changes in Self Report of Total Impairment

### Treatment Group as a Between Subjects Variable

As noted earlier, residents were randomly assigned to one of three treatment groups and completed all of their treatment and activities with their group. Although programming was essentially the same for all treatment groups, residents never interacted with members of other groups. Due to the small sample size, it was not possible to investigate the impact of treatment group by running a 3 x 3 x 3 ANOVA with Group, TRG, and SRG as between subjects variables. However, two separate 3 x 3 ANOVA's were run in order to assess for any Group x TRG x Change or Group x SRG x Change interactions. No Group x TRG x Change interactions were significant. However, four Group x SRG x Change interactions were observed for the self report (but not the staff report) of changes in Achenbach variables, including internalizing problems ( $F(3,20)=5.50$ ,  $p<.01$ ), anxiety/depression problems ( $F(3,19)=8.60$ ,  $p<.001$ ), thought problems ( $F(3,17)=3.66$ ,  $p<.05$ ), and total problems ( $F(3,20)=4.13$ ,  $p<.05$ ).

Figures 11, 12, 13, and 14 show the patterns of SRG x Change interactions within each of the three treatment groups. The pattern for Group 1 was similar across all outcome variables. The Unstable SRG showed significant improvement for internalizing problems ( $t(1)=29.00$ ,  $p<.05$ , means=31.00 at T1 and 16.50 at T2). Also, a statistical trend for

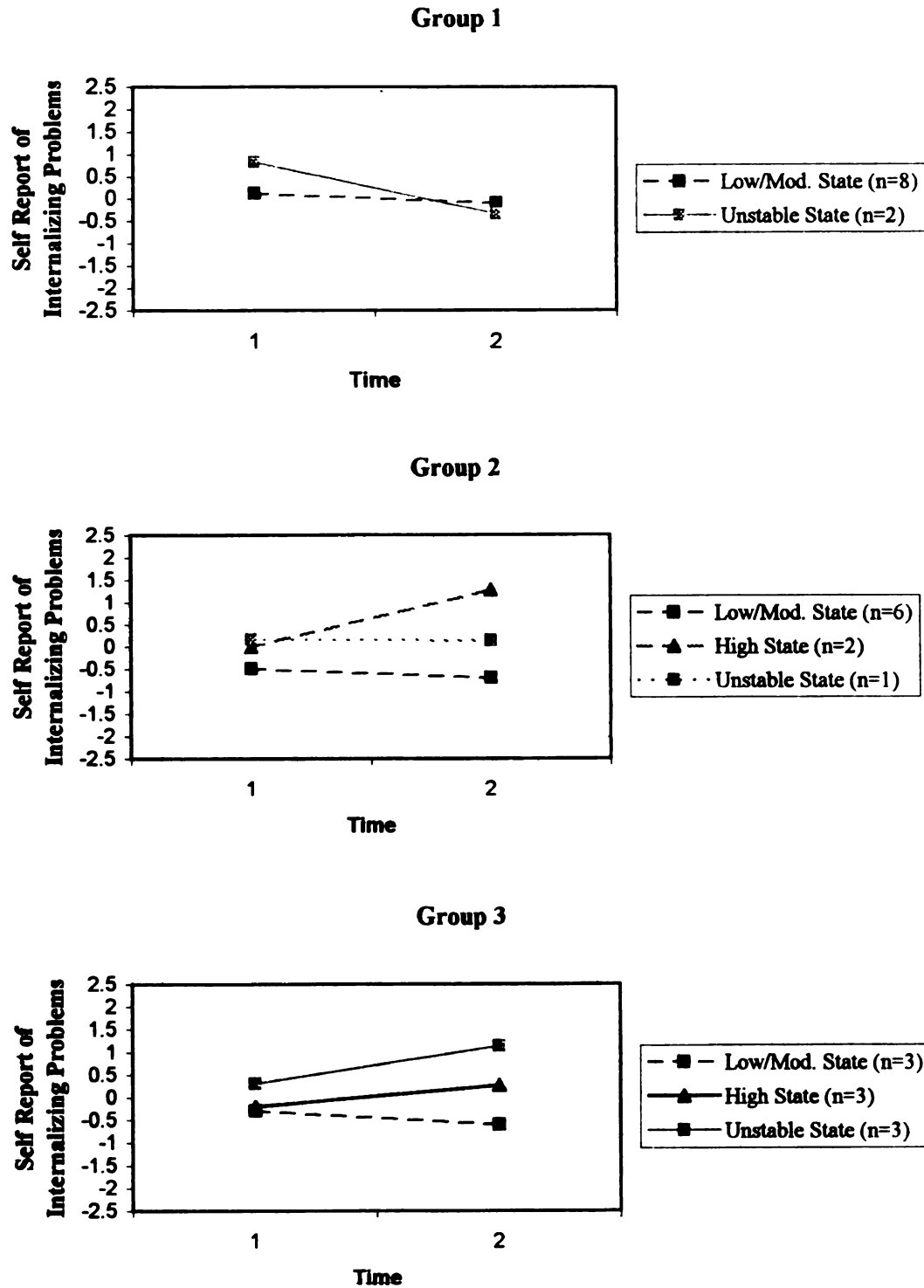


Figure 11

Interaction Between Group, State Reactance, and Changes in Self Report of Internalizing Problems

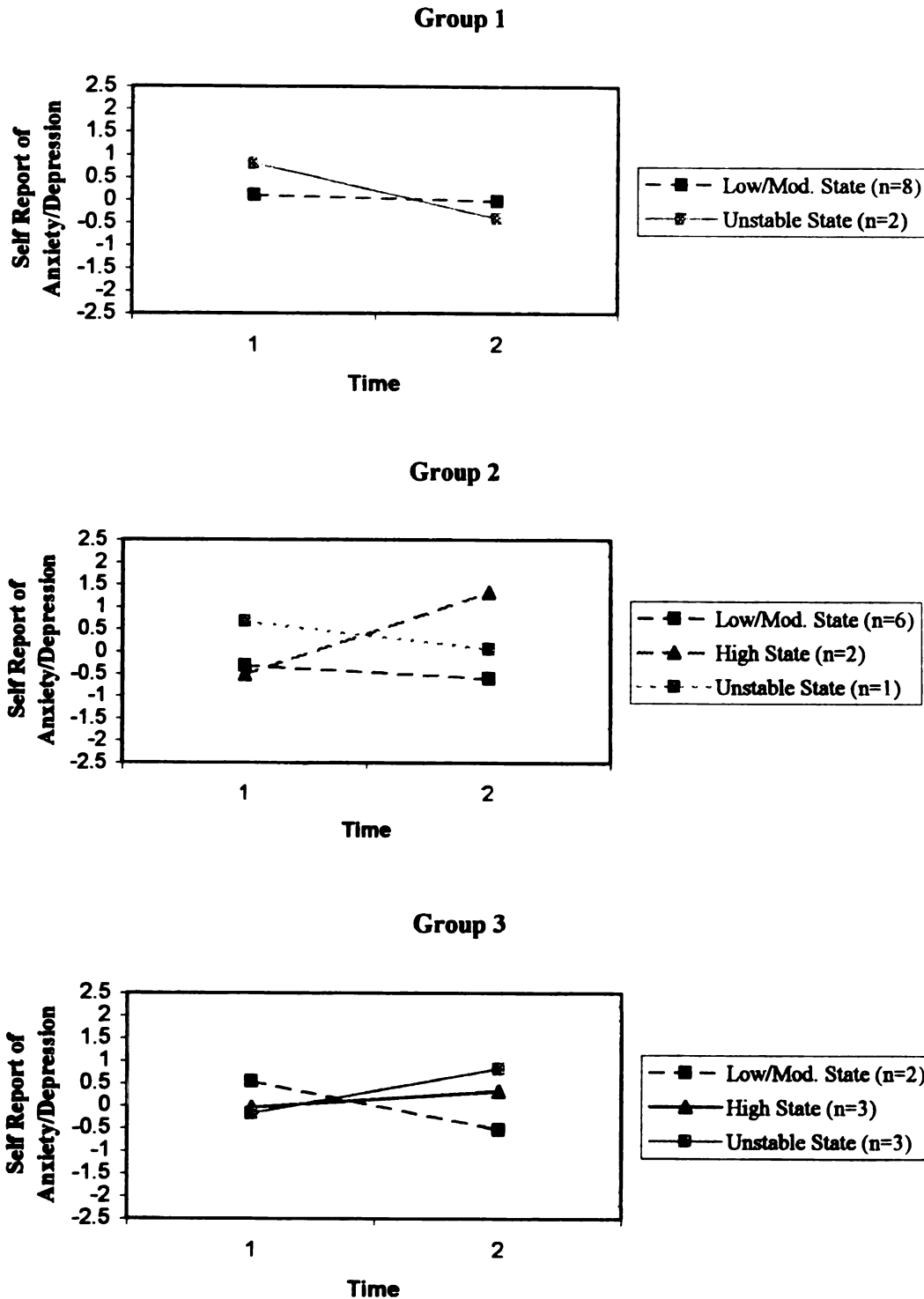


Figure 12

Interaction Between Group, State Reactance, and Changes in Self Report of Anxiety/Depression Problems

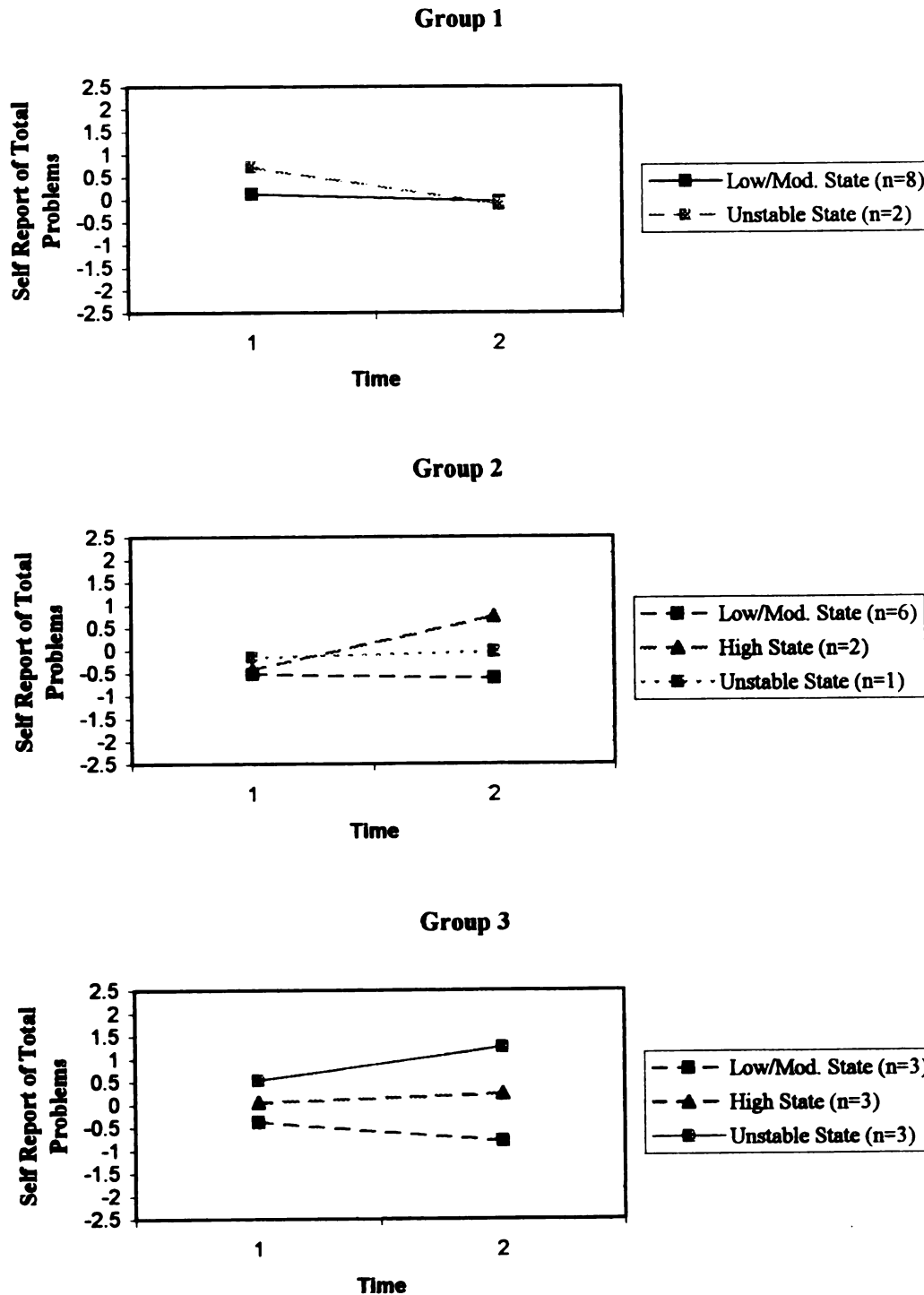


Figure 13

Interaction Between Group, State Reactance, and Changes in Self Report of Total Problems

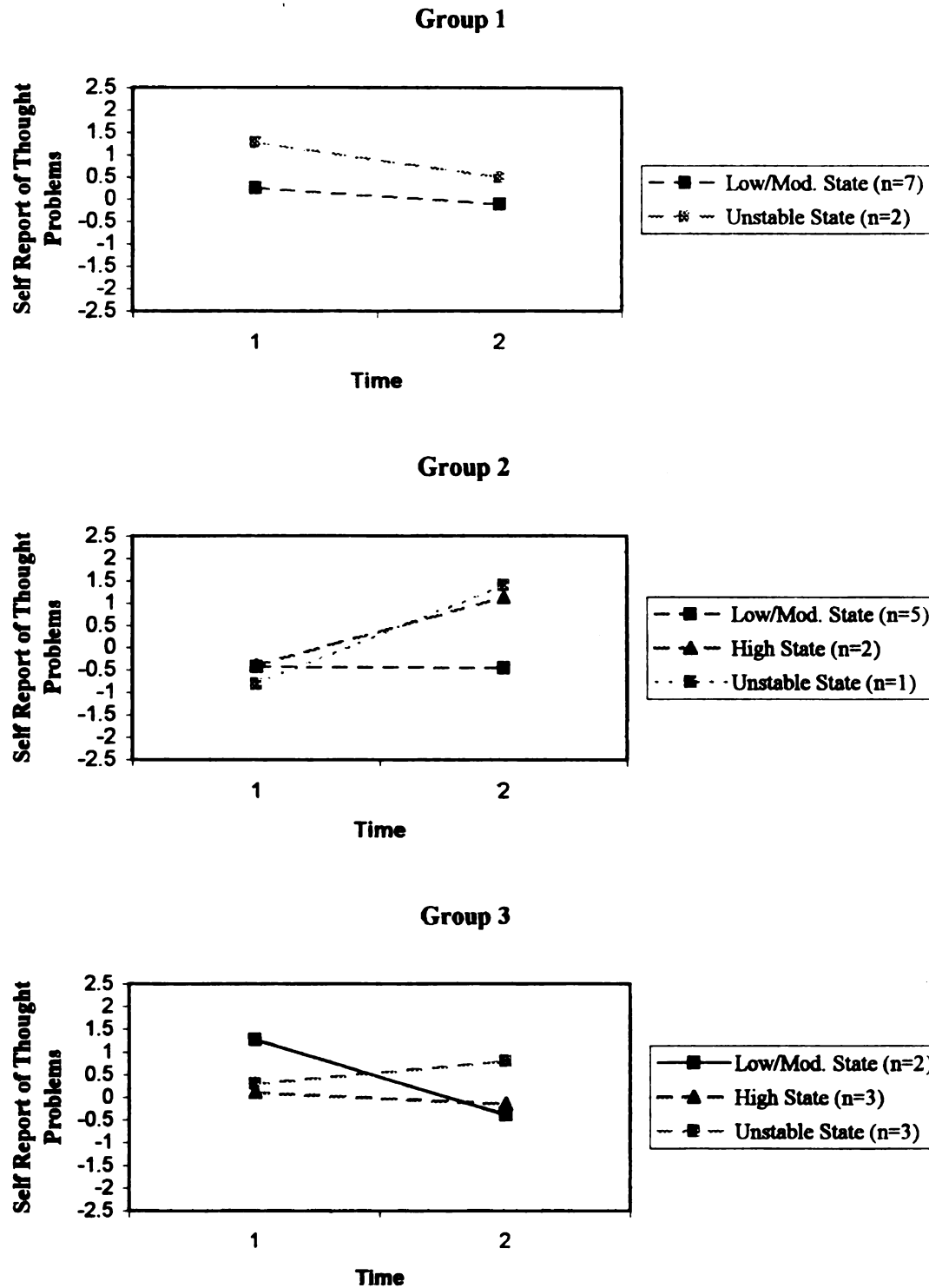


Figure 14

Interaction Between Group, State Reactance, and Changes in Self Report of Thought Problems

anxiety/depression problems ( $t(1)=10.00$ ,  $p<.10$ , means=18.00 at T1 and 8.00 at T2), and a similar non-significant pattern of change for thought problems and total problems (means=9.50 at T1 and 16.50 at T2, means=101.50 at T1 and 65.50 at T2, respectively) suggested improvement for the Unstable SRG. In contrast, the Low/moderate SRG within Group 1 did not change over time. None of the residents in Group 1 exhibited High state reactance.

Changes in the outcome variables in Group 2 generally were insignificant. However, Group 3 showed different patterns of change depending on the outcome variable with internalizing, anxiety/depression, and total problems showing a different pattern of change than thought problems. In general, for the first three variables, changes for the High SRG and Unstable SRG were negative, whereas there was essentially no change among the Low/moderate SRG. In particular, the High SRG showed significant negative change for internalizing problems ( $t(2)=-22.00$ ,  $p<.01$ , means=18.33 at T1 and 26.67 at T2), a statistical trend for anxiety/depression problems ( $t(2)=-4.0$ ,  $p<.10$ , means=11.67 at T1 and 14.33 at T2) and a similar non-significant pattern for total problems (means=77.67 at T1 and 80.67 at T2). Similarly, the Unstable SRG showed significant negative change for internalizing and total problems ( $T(2)=-4.95$ ,

$p < .05$ , means=24.67 at T1 and 39.33 at T2 and  $t(2) = -8.36$ ,  $p < .05$ , means=94.67 at T1 and 125.33 at T2, respectively) and a statistical trend for anxiety/depression problems ( $t(2) = -2.77$ ,  $p < .10$ , means=10.67 at T1 and 18.67 at T2). In contrast, the Low/moderate SRG within Group 3 showed no change over time for internalizing, anxiety/depression, or total problems. Alternately, for thought problems (Figure 14), the High and Unstable SRG's did not change whereas the Low/moderate SRG showed improvement ( $t(1) = 13.00$ ,  $p < .05$ , means=9.50 at T1 and 3.00 at T2).

## **DISCUSSION**

Although these results were relatively complex, in general, the following findings emerged:

1. Hypothesis 1 was supported by the results. Trait reactance was relatively stable over time whereas state reactance evidenced more change over time.
2. Hypothesis 2 also was supported by the results. Trait and state reactance were moderately correlated and trait reactance appeared to restrict the range of state reactance.
3. Results for Hypothesis 3 were mixed and included the following patterns:
  - a. Change in general, as well as interactions between reactance and change in particular, emerged for the most part when the data were based on self, rather than staff, reports of outcomes.
  - b. The direction of change varied as a function of type of pathology with residents in general showing more positive change for externalizing problems than internalizing problems.

- c. State reactance moderated the relationship between trait reactance and change for internalizing problems but not externalizing problems.
- d. Trait reactance, and to a much lesser degree state reactance, were directly related to change in externalizing problems and total problems but not internalizing problems, with only low (and not moderate or high) reactant residents showing positive change.
- e. Implications of state reactance for change was more affected by context than the implications of trait reactance for change.

The discussion considers each of these general findings.

### Finding for Hypothesis 1

The results provided overwhelming support for the greater stability of trait reactance as compared to state reactance. As a personality variable, trait reactance was expected to be more stable whereas state reactance was expected to be less stable because by definition it is situationally driven. In fact, state reactance was even less stable than anticipated. The residents' environment in the facility was much more controlled than a "real world"

environment with the residents interacting with the same people each day and following the same schedule each day. As a result, state reactance might be expected to be more stable in a residential environment in which freedom is restricted than in an environment that allows more freedom to choose. Accordingly, it was assumed that at each time point state reactance would vary at most between two adjacent levels; for example, high state reactant individuals would demonstrate state reactance that varied between high and moderate levels. It was not expected that some residents could not be classified as low, moderate, or high because their state reactance scores spanned the range of all three classifications.

### Findings for Hypothesis 2

Hypothesis 2 was also supported by the data. As predicted, state and trait reactance were moderately correlated with trait reactance to some extent, but not entirely, constraining the individual variation in state reactance. In particular, it was hypothesized that low trait reactant subjects mostly would exhibit low to moderate state reactance whereas high trait reactant subjects would be more likely to exhibit high to moderate state reactance. The data demonstrated that trait reactance did in fact restrict the range of observed state reactance. Each resident appeared to have a

characteristic level of reactance (trait reactance) but characteristics of the environment to some extent affected the actual level of reactance experienced in each situation (state reactance). Nevertheless, low trait reactant residents never reported high state reactance and high trait reactant residents never reported low state reactance. It may not be possible for high trait reactant residents to experience low state reactance for any length of time due to their predisposition not to be influenced by others. Instead, the closest approximation to low reactance for this group was that state reactance was highly variable fluctuating between high, moderate, and occasionally low (i.e., unstable state reactance).

### Findings for Hypothesis 3

Support for Hypothesis 3 was mixed. Hypothesis 3 predicted state reactance would moderate the relationship between trait reactance and treatment progress. In particular, it was expected that treatment progress would be better if state reactance was lower than trait reactance and not as good if state reactance was higher than trait reactance. However, the emergence of the unstable state group required some modification of the original hypotheses. The distribution of state reactance across trait reactance groups implied that unstable state reactance was an intermediary

between the moderate and high state reactance groups. Unstable state reactance appeared to be relatively “low” for the high trait reactance group and relatively “high” for the moderate trait reactance group. Hence, it was expected that high trait reactant residents with unstable state reactance would show more treatment progress than high trait reactant residents with high state reactance. In contrast, it was expected that moderate trait reactant residents with unstable state reactance would show less treatment progress than moderate trait reactant residents with either low or moderate (i.e., low/moderate) state reactance.

### Self versus Staff Report

For residents as a whole, the self report data showed significant change on half of the outcome variables, whereas the staff report data showed no significant (overall) change. This discrepancy can be better understood when differing methodologies and perspectives associated with self and staff report are taken into account. Firstly, the time span for observing changes differed for self and staff reports. Changes in self report data reflect changes over a three month period whereas changes in staff report data reflect changes over a one and a half month period. Whereas self report data were collected at admission and three months post

admission, staff report data were collected at 1.5 months post admission and at three months post admission. The discrepancy in reporting intervals was necessary in order to allow staff raters a reasonable period of time to observe the resident's behavior before reporting on it. Secondly, self report data reflect changes between no treatment and three months post treatment whereas staff report data reflect changes between 1.5 and 3 months post treatment. It would be expected that there would be a bigger difference between behavior prior to treatment and 3 months into treatment than between 1.5 months into treatment and 3 months into treatment. Thirdly, staff can not readily observe internal changes in the residents and must rely on the residents' disclosing information regarding changes in cognitions and feelings. Finally, staff reports may be biased by residents' reputations, which can be relatively stable despite change in behaviors.

### Internalizing Versus Externalizing Problems

These data showed that the overall direction of change varied as a function of type of pathology. Similarly, Swenson and Kennedy (1995) studied treatment outcomes for adolescent offenders and found different predictors of treatment outcome for adolescent offenders with externalizing behavior problems as compared to internalizing behavior problems. In the

present study, residents reported a reduction in externalizing problems and an increase in certain internalizing problems over time. For example, delinquency and undercontrolled behavior declined during treatment. This is not surprising given the high degree of structure and supervision in the treatment facility that limit opportunities for acting out and delinquency. However, whether the changes in externalizing behavior will be maintained after discharge remains unknown.

Although the pattern of change for several internalizing problems was complicated by reactance, self reported somatic problems increased over time across all reactance groups. There are two possible explanations for the increase in this component of internalizing pathology: one situational-specific and one more theoretical. As part of the program, the residents were able to fill out daily forms detailing physical concerns. After completing the form, the residents met with the unit nurse to discuss these health concerns. The nurse was very nurturing and these contacts were probably reinforcing. In addition, because of the increased access to medical care and increased medical education, the residents may have become more aware of their physical problems since being placed in the facility.

A more theoretical explanation focuses on manipulation of distress in

order to facilitate change. Beutler (1988, 1990, & 1991) argues that in order for treatment to be effective there needs to be an optimal level of motivational distress. Since externalizing problems are not experienced as distressing, in order to increase motivation for change, it may be necessary to initially increase acute distress, a defining aspect of internalizing problems (Phares & Compas, 1990). Similarly, Swenson and Kennedy (1995) found that adolescent offenders with externalizing problems showed more favorable treatment outcomes when they reported anxiety.

#### The Moderating Effect of State and Trait Reactance on Treatment Progress

The expectation that state reactance would moderate the relationship between trait reactance and treatment progress found support when progress was defined as a decrease in internalizing problems but not externalizing problems. It is possible that internalizing problems may be more susceptible to influence by internal motivations such as reactance whereas externalizing problems may be more controlled by the external environment. However, it is not clear whether improvements in externalizing problems may be linked to internal motivations as well when adolescents are not living in such a controlled environment. For example, when the residents are living in the community and are responsible for controlling their own

behavior, control of externalizing behavior may be more influenced by internal motivations. In fact, in the absence of environmental controls, it may be necessary to shape internal motivations such as state reactance in order to produce positive change.

Patterns of change associated with Trait reactance group x State reactance group x Change interactions for self reports of internalizing problems were consistent with Hypothesis 3. In particular, within the high trait reactance group, the unstable state reactance group showed a greater decrease in internalizing problems than the high state reactance group; and within the moderate trait reactance group, the low/moderate state reactance group showed more treatment progress than the unstable state reactance group. Accordingly, treatment progress in the unstable state reactance group varied as a function of trait reactance group, with change in opposite directions for the high and moderate state reactance groups. Assuming, as suggested, that unstable state reactance is a relative reduction in reactance for high trait reactant residents and an increase in reactance for moderate trait reactant residents, these findings support the hypothesis that the unstable state reactance has different implications for moderate and high levels of trait reactance.

The 3-way interaction found for staff report of somatic problems

partially supported Hypothesis 3. In particular, the within group patterns of change for the moderate trait reactance group were similar to those for the self report data and as such, consistent with the hypothesis. In contrast, the pattern for the high trait reactance group was inconsistent with Hypothesis 3, predicting that unstable state reactance group would show more treatment progress than the high state reactance group. Rather, the high state reactance group showed more treatment progress than the unstable state reactance group. This discrepancy may be related to the nature of the outcome variable (i.e., somatic problems). Self reported somatic problems increased over time. As discussed earlier, this increase may have been due to the residents seeking out comfort from the staff. High trait reactant residents would be less likely to overtly seek help and comfort because they value autonomy and do not like to rely on others for help (Dowd & Wallbrown, 1993, Dowd et al., 1994). Consequently, these high trait reactant residents might appear to staff to have fewer somatic problems since help seeking behavior may be the only way in which somatic problems would be identifiable to the staff. In contrast to staff report, self report data would more accurately reflect changes residents' private experiences of in somatic problems. Alternatively, it is possible that the increase in somatic problems was due to an informal norm maintaining by peer pressure for

residents to express distress in the form of somatic problems. Since the high trait and state reactant residents would be more likely to resist pressures to conform, this group may have been the only group to show treatment progress for these types of problems.

### Direct Effects of Trait and State Reactance on Treatment Progress

Although Hypothesis 3 predicted that state reactance would moderate the effects of trait reactance on treatment progress, several direct relationships between trait reactance and change emerged in the data. Consistent with past research (Courchaine et al., 1985; Dowd. et al., 1988; Oliver et al., 1993), the low trait reactance group showed improvement in self report of internalizing problems, aggressive problems, attention problems, and total problems. In addition, even when the data identified significant effects of state reactance within the moderate and high trait reactance groups, the low trait group, all of whom consistently reported only low or moderate state reactance, showed relative improvement in internalizing problems.

The one significant direct association between state reactance and change showed that the low/moderate state reactance group was the only group to show significant change in self reports of overall impairment. This

finding is consistent with previous work by Chamberlain et al. (1984). However, the larger number of direct effects for trait reactance as opposed to state reactance and the magnitude of these effects suggest that trait reactance may be more influential in predicting treatment progress than state reactance. This is inconsistent with Mulry et al. (1994) who studied the effects of both state and trait reactance on treatment approaches for a non-clinical population. Based on their findings, these researchers concluded that state reactance was more influential than trait reactance in predicting treatment outcome. This discrepancy may be due to the manner in which state reactance was measured. In particular, the study by Mulry artificially manipulated state reactance and produced two extremely different levels of state reactance (i.e., high or low). High state reactant participants were told they could choose the treatment method and were then assigned to the non-preferred method without explanation. The level of state reactance produced by being purposely misled is likely to be different in intensity and quality from the state reactance experienced in a treatment setting designed to help residents. This type of extreme frustration may have been responsible for the differential impact of state reactance as opposed to trait reactance. In addition, the artificial manipulation of state reactance may have minimized the impact of trait reactance in predicting the range of state

reactance.

### Impact of Trait and State Reactance on Change for the Three Treatment Groups

Additional analyses evaluated the impact of trait and state reactance on change as a function of treatment group. The results showed a clear pattern with four significant Group x State x Change interactions and no significant Group x Trait x Change interactions, suggesting that state reactance is more affected by social context than trait reactance. In particular, these interactions suggest that different levels of state reactance may be more beneficial in different social settings. In one treatment group, the unstable group was the only group to show significant improvement. In another treatment group, the low/moderate group showed improvement whereas the high and unstable groups became more dysfunctional over time. Since it is not possible to test the 4-way interaction due to sample size, it is not possible to determine if the differential impact of state reactance is moderated by trait reactance. As discussed in previous findings, unstable state reactance had different effects given moderate or high trait reactance.

### Limitations and Future Directions

While the present study expanded the conceptualization of reactance by simultaneously investigating the differential impact of trait and state reactance on treatment progress in the “real world”, generalizability is limited by several methodological problems. Most importantly, a larger sample is needed to bolster statistical power and ensure generalizability. Basta and Davidson (1988) noted that when studying the effectiveness of treatment for juvenile offenders, this is an especially salient concern.

In addition, the generalizability of the present findings is limited to male middle adolescent offenders. Future research should investigate whether these findings can be replicated with females, individuals at other stages of developmental (i.e., children, preadolescents, early adolescents, and adults) and other clinical populations (i.e., outpatients, psychiatric inpatients, and non incarcerated offenders). This is particularly important in light of Frank et al.’s (1998) work that studied psychiatric inpatients and found that trait reactance had different implications on treatment outcomes for male and female participants and participants in early and middle adolescence.

Although this study assessed treatment progress using multiple measures completed by different informants, only one measure of each type

of reactance was used. Future research may want to include additional measures of trait reactance (i.e., Hong & Page, 1989; Merz, 1983) and investigate different components of trait reactance. For example, future research should evaluate whether Dowd et al.'s (1991) verbal and behavioral subscales of trait reactance and Hong and Page's (1989) freedom of choice, conformity, reactance to advise, and behavioral freedom subscales of trait reactance have a differential impact treatment progress. In addition, future research should further validate the current measure of state reactance.

While this study attempted to assess treatment progress through behavioral observations, these data were not sufficiently reliable to be included in the analyses. This study demonstrates the risks of relying on untrained treatment providers as direct observers. When including behavioral observations, future researches should either train treatment providers or use trained unbiased observers.

Since this research demonstrated that both state and trait reactance impact treatment progress, future research should evaluate which components of the treatment account for observed changes. In particular, the relationship between different treatment approaches and different levels of reactance needs to be assessed for adolescents. Similarly, which

treatment approaches are associated with a reduction in adolescent's state reactance needs to be investigated.

Finally, future research should expand the window of change to include longer periods for change and post treatment follow up. Ideally, the goal of treatment effectiveness studies is to present data on the long-term effectiveness of treatment. In particular, investigations of offender populations are interested in the prevention of antisocial acts in the long term (Basta & Davidson, 1988). Conceivably, high reactant individuals may be more likely than low reactant individuals to maintain improvements because they resist the negative influence of others. This is particularly important for adolescents, since most adolescents must confront family members and peers who may resist any changes that could alter the family or peer group homeostasis.

### Conclusions

In general, the results provided support for the first two hypotheses and mixed support for the third. In particular, trait reactance was more stable than state reactance over time (Hypothesis 1) and trait and state reactance were moderately correlated, with the level of trait reactance restricting the range of state reactance (Hypothesis 2). Also for certain

outcome variables, state reactance moderated the effect of trait reactance on treatment progress (Hypothesis 3). The last hypothesis only found support when evaluating change in internalizing problems (as opposed to externalizing problems). In addition, only self reports (as opposed to staff reports) of change demonstrated the expected effects of state reactance as a moderator between trait reactance and treatment progress.

The emergence of the unstable state reactance group was an unexpected but theoretically important discovery that may also prove clinically significant. In particular, unstable state reactance appeared to be an intermediate level between moderate and high state reactance. Moreover, the implications of unstable state reactance varied as a function of trait reactance. In particular, the unstable state reactance group was more likely to change in a positive direction when accompanied by high trait as opposed to moderate trait reactance.

There are several implications of the current findings for clinicians working with adolescent offenders. First, the results indicated that, on average, lower reactant (state or trait) adolescents are more likely to show treatment progress than higher reactant adolescents. Accordingly, clinicians should develop treatment plans that focus on manipulating adolescent reactance and use treatment approaches proven to lower state reactance

levels, especially for high reactant adolescents. For example, Beutler (et al, 1991) suggested using non-confrontational or paradoxical approaches with high reactant adult clients. In addition, while it appears possible for a clinician to impact the level of state reactance, the potential range of state reactance is constrained by the adolescent's level of trait reactance. In particular, for high trait reactant adolescents, clinicians should recognize that low state reactance may not be feasible and instead strive for more variable state reactance that at some points is low (i.e., unstable state reactance). Finally, effectively shaping the client's state reactance may facilitate treatment progress for internalizing problems but not necessarily externalizing problems. Since externalizing behavior appears to be more directly controlled by the external environment, clinicians working with the adolescent with externalizing problems should consider involving the family and implementing structural changes in the environment that limit the opportunity for acting out.

## **APPENDICES**

## Appendix A

### Trait Reactance

## Personal Attitudes Inventory

**Instructions:** Please answer each question by circling your answer.

**SD=Strongly Disagree    D=Disagree    A=Agree    SA=Strongly Agree**

|     |                                                                                 |           |          |          |           |
|-----|---------------------------------------------------------------------------------|-----------|----------|----------|-----------|
| 1.  | If I disagree with my teachers, I let them know.                                | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 2.  | I get annoyed at adults who try to tell me what to do.                          | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 3.  | I often find I have to question adults' decisions.                              | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 4.  | I enjoy seeing someone else do something that I know we are not supposed to do. | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 5.  | It's very important to me to be free to do what I want.                         | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 6.  | I often keep an argument going because I just don't want to give in.            | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 7.  | In discussions, I am easily persuaded by others.                                | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 8.  | Nothing turns me on as much as a good argument.                                 | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 9.  | When I have a job to do, I like it better when no one tells me how to do it.    | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 10. | If I am told what to do, I often do the opposite.                               | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 11. | I am sometimes afraid to disagree with others.                                  | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 12. | It really bothers me when police officers tell people what to do.               | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |

|                                                                                                     |           |          |          |           |
|-----------------------------------------------------------------------------------------------------|-----------|----------|----------|-----------|
| 13. I don't get upset about changing my plans when someone in the group wants to do something else. | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 14. I don't mind other people telling me what to do.                                                | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 15. I enjoy debating with other people.                                                             | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 16. If someone asks a favor of me, I wonder what they're really after.                              | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 17. It irritates me when other people try to change my mind.                                        | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 18. I often follow other's suggestions.                                                             | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 19. I have very strong opinions about things.                                                       | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 20. It's important to me to have power over others.                                                 | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 21. I'm very willing to listen to other people's advice when it comes to solving problems.          | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 22. I enjoy "showing up" other people who think they are right.                                     | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 23. I'm the kind of person who likes to compete more than cooperate.                                | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 24. I don't mind doing something for someone even when I don't know why I'm doing it.               | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 25. I usually go along with others' advice.                                                         | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 26. I feel it is better to stand up for what I believe than to be silent.                           | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 27. I am very stubborn and set in my ways.                                                          | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |
| 28. When I have to work with other people, it's very important to me to get along well with them.   | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> |

## Appendix B

### State Reactance

**TIME: 1 2 3 4**

**MR#:** \_\_\_\_\_

**Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

### **Program Inventory**

**Instructions:** Please answer each question by circling your answer.

**1=Definitely No**

**2=Probably No**

**3=Probably Yes**

**4=Definitely Yes**

|                                                                                                                                                                                                       |   |   |   |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|
| 1. Do you agree with the changes the staff is trying to make in you?                                                                                                                                  | 1 | 2 | 3 | 4 |
| 2. Suppose you had a friend who was committing some burglaries and car thefts. He was caught once and put on probation and then caught again. Do you think it would help this friend to be sent here? | 1 | 2 | 3 | 4 |
| 3. Do you think some of the staff here can help you find out why you get into trouble and help you change?                                                                                            | 1 | 2 | 3 | 4 |
| 4. Do you think you need help from someone so you can change and stay out of trouble?                                                                                                                 | 1 | 2 | 3 | 4 |
| 5. On the whole, has this place been good for you so far?                                                                                                                                             | 1 | 2 | 3 | 4 |
| 6. When you think about the time you have spent here, do you think it was happy?                                                                                                                      | 1 | 2 | 3 | 4 |
| 7. Do you think your life will be better because you have spent time here?                                                                                                                            | 1 | 2 | 3 | 4 |
| 8. Has being here been a bad experience for you?                                                                                                                                                      | 1 | 2 | 3 | 4 |

## Appendix C

### Achenbach-Staff Report

Below is a list of items that describe children and youth. For each item that describes your child *now or within the past 6 months*, please circle the 2 if the item is *very true or often true* of your child. Circle the 1 if the item is *somewhat or sometimes true* of your child. If the item is *not true* of your child, circle the 0. Please answer all items as well as you can, even if some do not seem to apply to your child.

**Please Print**

0 = Not True (as far as you know)    1 = Somewhat or Sometimes True    2 = Very True or Often True

|   |   |   |     |                                                                                   |   |   |   |     |                                                                    |
|---|---|---|-----|-----------------------------------------------------------------------------------|---|---|---|-----|--------------------------------------------------------------------|
| 0 | 1 | 2 | 1.  | Acts too young for his/her age                                                    | 0 | 1 | 2 | 31. | Fears he/she might think or do something bad                       |
| 0 | 1 | 2 | 2.  | Allergy (describe): _____                                                         | 0 | 1 | 2 | 32. | Feels he/she has to be perfect                                     |
|   |   |   |     | _____                                                                             | 0 | 1 | 2 | 33. | Feels or complains that no one loves him/her                       |
| 0 | 1 | 2 | 3.  | Argues a lot                                                                      | 0 | 1 | 2 | 34. | Feels others are out to get him/her                                |
| 0 | 1 | 2 | 4.  | Asthma                                                                            | 0 | 1 | 2 | 35. | Feels worthless or inferior                                        |
| 0 | 1 | 2 | 5.  | Behaves like opposite sex                                                         | 0 | 1 | 2 | 36. | Gets hurt a lot, accident-prone                                    |
| 0 | 1 | 2 | 6.  | Bowel movements outside toilet                                                    | 0 | 1 | 2 | 37. | Gets in many fights                                                |
| 0 | 1 | 2 | 7.  | Bragging, boasting                                                                | 0 | 1 | 2 | 38. | Gets teased a lot                                                  |
| 0 | 1 | 2 | 8.  | Can't concentrate, can't pay attention for long                                   | 0 | 1 | 2 | 39. | Hangs around with others who get in trouble                        |
| 0 | 1 | 2 | 9.  | Can't get his/her mind off certain thoughts; obsessions (describe): _____         | 0 | 1 | 2 | 40. | Hears sounds or voices that aren't there (describe): _____         |
| 0 | 1 | 2 | 10. | Can't sit still, restless, or hyperactive                                         | 0 | 1 | 2 | 41. | Impulsive or acts without thinking                                 |
| 0 | 1 | 2 | 11. | Clings to adults or too dependent                                                 | 0 | 1 | 2 | 42. | Would rather be alone than with others                             |
| 0 | 1 | 2 | 12. | Complains of loneliness                                                           | 0 | 1 | 2 | 43. | Lying or cheating                                                  |
| 0 | 1 | 2 | 13. | Confused or seems to be in a fog                                                  | 0 | 1 | 2 | 44. | Bites fingernails                                                  |
| 0 | 1 | 2 | 14. | Cries a lot                                                                       | 0 | 1 | 2 | 45. | Nervous, highstrung, or tense                                      |
| 0 | 1 | 2 | 15. | Cruel to animals                                                                  | 0 | 1 | 2 | 46. | Nervous movements or twitching (describe): _____                   |
| 0 | 1 | 2 | 16. | Cruelty, bullying, or meanness to others                                          | 0 | 1 | 2 | 47. | Nightmares                                                         |
| 0 | 1 | 2 | 17. | Day-dreams or gets lost in his/her thoughts                                       | 0 | 1 | 2 | 48. | Not liked by other kids                                            |
| 0 | 1 | 2 | 18. | Deliberately harms self or attempts suicide                                       | 0 | 1 | 2 | 49. | Constipated, doesn't move bowels                                   |
| 0 | 1 | 2 | 19. | Demands a lot of attention                                                        | 0 | 1 | 2 | 50. | Too fearful or anxious                                             |
| 0 | 1 | 2 | 20. | Destroys his/her own things                                                       | 0 | 1 | 2 | 51. | Feels dizzy                                                        |
| 0 | 1 | 2 | 21. | Destroys things belonging to his/her family or others                             | 0 | 1 | 2 | 52. | Feels too guilty                                                   |
| 0 | 1 | 2 | 22. | Disobedient at home                                                               | 0 | 1 | 2 | 53. | Overeating                                                         |
| 0 | 1 | 2 | 23. | Disobedient at school                                                             | 0 | 1 | 2 | 54. | Overtired                                                          |
| 0 | 1 | 2 | 24. | Doesn't eat well                                                                  | 0 | 1 | 2 | 55. | Overweight                                                         |
| 0 | 1 | 2 | 25. | Doesn't get along with other kids                                                 |   |   |   | 56. | Physical problems <i>without known medical cause</i> :             |
| 0 | 1 | 2 | 26. | Doesn't seem to feel guilty after misbehaving                                     | 0 | 1 | 2 | a.  | Aches or pains (not stomach or headaches)                          |
| 0 | 1 | 2 | 27. | Easily jealous                                                                    | 0 | 1 | 2 | b.  | Headaches                                                          |
| 0 | 1 | 2 | 28. | Eats or drinks things that are not food — don't include sweets (describe): _____  | 0 | 1 | 2 | c.  | Nausea, feels sick                                                 |
|   |   |   |     | _____                                                                             | 0 | 1 | 2 | d.  | Problems with eyes (not if corrected by glasses) (describe): _____ |
| 0 | 1 | 2 | 29. | Fears certain animals, situations, or places, other than school (describe): _____ | 0 | 1 | 2 | e.  | Rashes or other skin problems                                      |
|   |   |   |     | _____                                                                             | 0 | 1 | 2 | f.  | Stomachaches or cramps                                             |
| 0 | 1 | 2 | 30. | Fears going to school                                                             | 0 | 1 | 2 | g.  | Vomiting, throwing up                                              |
|   |   |   |     | _____                                                                             | 0 | 1 | 2 | h.  | Other (describe): _____                                            |

**Please Print**

0 = Not True (as far as you know)    1 = Somewhat or Sometimes True    2 = Very True or Often True

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>0 1 2 57. Physically attacks people</p> <p>0 1 2 58. Picks nose, skin, or other parts of body (describe): _____</p> <p>_____</p> <p>0 1 2 59. Plays with own sex parts in public</p> <p>0 1 2 60. Plays with own sex parts too much</p> <p>0 1 2 61. Poor school work</p> <p>0 1 2 62. Poorly coordinated or clumsy</p> <p>0 1 2 63. Prefers being with older kids</p> <p>0 1 2 64. Prefers being with younger kids</p> <p>0 1 2 65. Refuses to talk</p> <p>0 1 2 66. Repeats certain acts over and over; compulsions (describe): _____</p> <p>_____</p> <p>0 1 2 67. Runs away from home</p> <p>0 1 2 68. Screams a lot</p> <p>0 1 2 69. Secretive, keeps things to self</p> <p>0 1 2 70. Sees things that aren't there (describe): _____</p> <p>_____</p> <p>0 1 2 71. Self-conscious or easily embarrassed</p> <p>0 1 2 72. Sets fires</p> <p>0 1 2 73. Sexual problems (describe): _____</p> <p>_____</p> <p>0 1 2 74. Showing off or clowning</p> <p>0 1 2 75. Shy or timid</p> <p>0 1 2 76. Sleeps less than most kids</p> <p>0 1 2 77. Sleeps more than most kids during day and/or night (describe): _____</p> <p>_____</p> <p>0 1 2 78. Smears or plays with bowel movements</p> <p>0 1 2 79. Speech problem (describe): _____</p> <p>_____</p> <p>0 1 2 80. Stares blankly</p> <p>0 1 2 81. Steals at home</p> <p>0 1 2 82. Steals outside the home</p> <p>0 1 2 83. Stores up things he/she doesn't need (describe): _____</p> <p>_____</p> | <p>0 1 2 84. Strange behavior (describe): _____</p> <p>_____</p> <p>0 1 2 85. Strange ideas (describe): _____</p> <p>_____</p> <p>0 1 2 86. Stubborn, sullen, or irritable</p> <p>0 1 2 87. Sudden changes in mood or feelings</p> <p>0 1 2 88. Sulks a lot</p> <p>0 1 2 89. Suspicious</p> <p>0 1 2 90. Swearing or obscene language</p> <p>0 1 2 91. Talks about killing self</p> <p>0 1 2 92. Talks or walks in sleep (describe): _____</p> <p>_____</p> <p>0 1 2 93. Talks too much</p> <p>0 1 2 94. Teases a lot</p> <p>0 1 2 95. Temper tantrums or hot temper</p> <p>0 1 2 96. Thinks about sex too much</p> <p>0 1 2 97. Threatens people</p> <p>0 1 2 98. Thumb-sucking</p> <p>0 1 2 99. Too concerned with neatness or cleanliness</p> <p>0 1 2 100. Trouble sleeping (describe): _____</p> <p>_____</p> <p>0 1 2 101. Truancy, skips school</p> <p>0 1 2 102. Underactive, slow moving, or lacks energy</p> <p>0 1 2 103. Unhappy, sad, or depressed</p> <p>0 1 2 104. Unusually loud</p> <p>0 1 2 105. Uses alcohol or drugs for nonmedical purposes (describe): _____</p> <p>_____</p> <p>0 1 2 106. Vandalism</p> <p>0 1 2 107. Wets self during the day</p> <p>0 1 2 108. Wets the bed</p> <p>0 1 2 109. Whining</p> <p>0 1 2 110. Wishes to be of opposite sex</p> <p>0 1 2 111. Withdrawn, doesn't get involved with others</p> <p>0 1 2 112. Worries</p> <p>113. Please write in any problems your child has that were not listed above:</p> <p>0 1 2 _____</p> <p>0 1 2 _____</p> <p>0 1 2 _____</p> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

PLEASE BE SURE YOU HAVE ANSWERED ALL ITEMS. PAGE 4 UNDERLINE ANY YOU ARE CONCERNED ABOUT.

## Appendix D

### Achenbach-Self Report

Below is a list of items that describe kids. For each item that describes you *now or within the past 3 months*, please circle the 2 if the item is *very true or often true* of you. Circle the 1 if the item is *somewhat or sometimes true* of you. If the item is *not true* of you, circle the 0.

Please Print      0 = Not True      1 = Somewhat or Sometimes True      2 = Very True or Often True

|   |   |   |                                                                                          |   |   |   |                                                                              |
|---|---|---|------------------------------------------------------------------------------------------|---|---|---|------------------------------------------------------------------------------|
| 0 | 1 | 2 | 1. I act too young for my age                                                            | 0 | 1 | 2 | 40. I hear sounds or voices that other people think aren't there (describe): |
| 0 | 1 | 2 | 2. I have an allergy (describe):                                                         |   |   |   |                                                                              |
|   |   |   |                                                                                          |   |   |   |                                                                              |
|   |   |   |                                                                                          |   |   |   |                                                                              |
| 0 | 1 | 2 | 3. I argue a lot                                                                         | 0 | 1 | 2 | 41. I act without stopping to think                                          |
| 0 | 1 | 2 | 4. I have asthma                                                                         | 0 | 1 | 2 | 42. I would rather be alone than with others                                 |
| 0 | 1 | 2 | 5. I act like the opposite sex                                                           | 0 | 1 | 2 | 43. I lie or cheat                                                           |
| 0 | 1 | 2 | 6. I like animals                                                                        | 0 | 1 | 2 | 44. I bite my fingernails                                                    |
| 0 | 1 | 2 | 7. I brag                                                                                | 0 | 1 | 2 | 45. I am nervous or tense                                                    |
| 0 | 1 | 2 | 8. I have trouble concentrating or paying attention                                      | 0 | 1 | 2 | 46. Parts of my body twitch or make nervous movements (describe):            |
| 0 | 1 | 2 | 9. I can't get my mind off certain thoughts (describe):                                  |   |   |   |                                                                              |
|   |   |   |                                                                                          |   |   |   |                                                                              |
|   |   |   |                                                                                          |   |   |   |                                                                              |
| 0 | 1 | 2 | 10. I have trouble sitting still                                                         | 0 | 1 | 2 | 47. I have nightmares                                                        |
| 0 | 1 | 2 | 11. I'm too dependent on adults                                                          | 0 | 1 | 2 | 48. I am not liked by other kids                                             |
| 0 | 1 | 2 | 12. I feel lonely                                                                        | 0 | 1 | 2 | 49. I can do certain things better than most kids                            |
| 0 | 1 | 2 | 13. I feel confused or in a fog                                                          | 0 | 1 | 2 | 50. I am too fearful or anxious                                              |
| 0 | 1 | 2 | 14. I cry a lot                                                                          | 0 | 1 | 2 | 51. I feel dizzy                                                             |
| 0 | 1 | 2 | 15. I am pretty honest                                                                   | 0 | 1 | 2 | 52. I feel too guilty                                                        |
| 0 | 1 | 2 | 16. I am mean to others                                                                  | 0 | 1 | 2 | 53. I eat too much                                                           |
| 0 | 1 | 2 | 17. I daydream a lot                                                                     | 0 | 1 | 2 | 54. I feel overtired                                                         |
| 0 | 1 | 2 | 18. I deliberately try to hurt or kill myself                                            | 0 | 1 | 2 | 55. I am overweight                                                          |
| 0 | 1 | 2 | 19. I try to get a lot of attention                                                      |   |   |   | 56. Physical problems without known medical cause:                           |
| 0 | 1 | 2 | 20. I destroy my own things                                                              | 0 | 1 | 2 | a. Aches or pains (not stomach or headaches)                                 |
| 0 | 1 | 2 | 21. I destroy things belonging to others                                                 | 0 | 1 | 2 | b. Headaches                                                                 |
| 0 | 1 | 2 | 22. I disobey my parents                                                                 | 0 | 1 | 2 | c. Nausea, feel sick                                                         |
| 0 | 1 | 2 | 23. I disobey at school                                                                  | 0 | 1 | 2 | d. Problems with eyes (not if corrected by glasses) (describe):              |
| 0 | 1 | 2 | 24. I don't eat as well as I should                                                      |   |   |   |                                                                              |
| 0 | 1 | 2 | 25. I don't get along with other kids                                                    |   |   |   |                                                                              |
| 0 | 1 | 2 | 26. I don't feel guilty after doing something I shouldn't                                |   |   |   |                                                                              |
| 0 | 1 | 2 | 27. I am jealous of others                                                               | 0 | 1 | 2 | e. Rashes or other skin problems                                             |
| 0 | 1 | 2 | 28. I am willing to help others when they need help                                      | 0 | 1 | 2 | f. Stomachaches or cramps                                                    |
| 0 | 1 | 2 | 29. I am afraid of certain animals, situations, or places, other than school (describe): | 0 | 1 | 2 | g. Vomiting, throwing up                                                     |
|   |   |   |                                                                                          | 0 | 1 | 2 | h. Other (describe):                                                         |
|   |   |   |                                                                                          |   |   |   |                                                                              |
|   |   |   |                                                                                          |   |   |   |                                                                              |
| 0 | 1 | 2 | 30. I am afraid of going to school                                                       | 0 | 1 | 2 | 57. I physically attack people                                               |
| 0 | 1 | 2 | 31. I am afraid I might think or do something bad                                        | 0 | 1 | 2 | 58. I pick my skin or other parts of my body (describe):                     |
| 0 | 1 | 2 | 32. I feel that I have to be perfect                                                     |   |   |   |                                                                              |
| 0 | 1 | 2 | 33. I feel that no one loves me                                                          |   |   |   |                                                                              |
| 0 | 1 | 2 | 34. I feel that others are out to get me                                                 |   |   |   |                                                                              |
| 0 | 1 | 2 | 35. I feel worthless or inferior                                                         | 0 | 1 | 2 | 59. I can be pretty friendly                                                 |
| 0 | 1 | 2 | 36. I accidentally get hurt a lot                                                        | 0 | 1 | 2 | 60. I like to try new things                                                 |
| 0 | 1 | 2 | 37. I get in many fights                                                                 | 0 | 1 | 2 | 61. My school work is poor                                                   |
| 0 | 1 | 2 | 38. I get teased a lot                                                                   | 0 | 1 | 2 | 62. I am poorly coordinated or clumsy                                        |
| 0 | 1 | 2 | 39. I hang around with kids who get in trouble                                           | 0 | 1 | 2 | 63. I would rather be with older kids than with kids my own age              |

0 = Not True    1 = Somewhat or Sometimes True    2 = Very True or Often True

|   |   |   |     |                                                                       |   |   |   |      |                                                                             |
|---|---|---|-----|-----------------------------------------------------------------------|---|---|---|------|-----------------------------------------------------------------------------|
| 0 | 1 | 2 | 64. | I would rather be with younger kids than with kids my own age         | 0 | 1 | 2 | 85.  | I have thoughts that other people would think are strange (describe): _____ |
| 0 | 1 | 2 | 65. | I refuse to talk                                                      |   |   |   |      | _____                                                                       |
| 0 | 1 | 2 | 66. | I repeat certain acts over and over (describe): _____                 |   |   |   |      | _____                                                                       |
|   |   |   |     | _____                                                                 |   |   |   |      | _____                                                                       |
|   |   |   |     | _____                                                                 |   |   |   |      |                                                                             |
| 0 | 1 | 2 | 67. | I run away from home                                                  | 0 | 1 | 2 | 86.  | I am stubborn                                                               |
| 0 | 1 | 2 | 68. | I scream a lot                                                        | 0 | 1 | 2 | 87.  | My moods or feelings change suddenly                                        |
| 0 | 1 | 2 | 69. | I am secretive or keep things to myself                               | 0 | 1 | 2 | 88.  | I enjoy being with other people                                             |
| 0 | 1 | 2 | 70. | I see things that other people think aren't there (describe): _____   | 0 | 1 | 2 | 89.  | I am suspicious                                                             |
|   |   |   |     | _____                                                                 | 0 | 1 | 2 | 90.  | I swear or use dirty language                                               |
|   |   |   |     | _____                                                                 | 0 | 1 | 2 | 91.  | I think about killing myself                                                |
|   |   |   |     |                                                                       | 0 | 1 | 2 | 92.  | I like to make others laugh                                                 |
|   |   |   |     |                                                                       | 0 | 1 | 2 | 93.  | I talk too much                                                             |
| 0 | 1 | 2 | 71. | I am self-conscious or easily embarrassed                             | 0 | 1 | 2 | 94.  | I tease others a lot                                                        |
| 0 | 1 | 2 | 72. | I set fires                                                           | 0 | 1 | 2 | 95.  | I have a hot temper                                                         |
| 0 | 1 | 2 | 73. | I can work well with my hands                                         | 0 | 1 | 2 | 96.  | I think about sex too much                                                  |
| 0 | 1 | 2 | 74. | I show off or clown                                                   | 0 | 1 | 2 | 97.  | I threaten to hurt people                                                   |
| 0 | 1 | 2 | 75. | I am shy                                                              | 0 | 1 | 2 | 98.  | I like to help others                                                       |
| 0 | 1 | 2 | 76. | I sleep less than most kids                                           | 0 | 1 | 2 | 99.  | I am too concerned about being neat or clean                                |
| 0 | 1 | 2 | 77. | I sleep more than most kids during day and/or night (describe): _____ | 0 | 1 | 2 | 100. | I have trouble sleeping (describe): _____                                   |
|   |   |   |     | _____                                                                 |   |   |   |      | _____                                                                       |
|   |   |   |     | _____                                                                 |   |   |   |      | _____                                                                       |
| 0 | 1 | 2 | 78. | I have a good imagination                                             | 0 | 1 | 2 | 101. | I cut classes or skip school                                                |
| 0 | 1 | 2 | 79. | I have a speech problem (describe): _____                             | 0 | 1 | 2 | 102. | I don't have much energy                                                    |
|   |   |   |     | _____                                                                 | 0 | 1 | 2 | 103. | I am unhappy, sad, or depressed                                             |
|   |   |   |     | _____                                                                 | 0 | 1 | 2 | 104. | I am louder than other kids                                                 |
|   |   |   |     | _____                                                                 | 0 | 1 | 2 | 105. | I use alcohol or drugs for nonmedical purposes (describe): _____            |
|   |   |   |     |                                                                       |   |   |   |      | _____                                                                       |
| 0 | 1 | 2 | 80. | I stand up for my rights                                              |   |   |   |      | _____                                                                       |
| 0 | 1 | 2 | 81. | I steal at home                                                       |   |   |   |      | _____                                                                       |
| 0 | 1 | 2 | 82. | I steal from places other than home                                   |   |   |   |      | _____                                                                       |
| 0 | 1 | 2 | 83. | I store up things I don't need (describe): _____                      |   |   |   |      | _____                                                                       |
|   |   |   |     | _____                                                                 |   |   |   |      | _____                                                                       |
|   |   |   |     | _____                                                                 |   |   |   |      | _____                                                                       |
| 0 | 1 | 2 | 84. | I do things other people think are strange (describe): _____          | 0 | 1 | 2 | 106. | I try to be fair to others                                                  |
|   |   |   |     | _____                                                                 | 0 | 1 | 2 | 107. | I enjoy a good joke                                                         |
|   |   |   |     | _____                                                                 | 0 | 1 | 2 | 108. | I like to take life easy                                                    |
|   |   |   |     | _____                                                                 | 0 | 1 | 2 | 109. | I try to help other people when I can                                       |
|   |   |   |     |                                                                       | 0 | 1 | 2 | 110. | I wish I were of the opposite sex                                           |
|   |   |   |     |                                                                       | 0 | 1 | 2 | 111. | I keep from getting involved with others                                    |
|   |   |   |     |                                                                       | 0 | 1 | 2 | 112. | I worry a lot                                                               |

Please write down anything else that describes your feelings, behavior, or interests

## Appendix E

### CBRF

## Child Behavior Rating Form

Date:

Resident's Name:

**Behavior problems:** 1) Check all behavior problems that occurred during this week. 2) Circle 1, 2 or 3 for the checked items only.

1 = Mild problem

2 = Moderate problem

3 = Severe problem

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>___ 1. Apathetic or unmotivated ..... 1    2    3</p> <p>___ 2. Argued ..... 1    2    3</p> <p>___ 3. Defiant, challenged adult authority ..... 1    2    3</p> <p>___ 4. Destroyed property ..... 1    2    3</p> <p>___ 5. Difficulty concentrating ..... 1    2    3</p> <p>___ 6. Disoriented, out of contact with reality ..... 1    2    3</p> <p>___ 7. Easily distracted ..... 1    2    3</p> <p>___ 8. Fidgeted ..... 1    2    3</p> <p>___ 9. Harmed self ..... 1    2    3</p> <p>___ 10. Isolated self from others ..... 1    2    3</p> <p>___ 11. Nervous or tense ..... 1    2    3</p> <p>___ 12. Obsessions/compulsions ..... 1    2    3</p> <p>___ 13. Overly excited, exuberant ..... 1    2    3</p> <p>___ 14. Physically attacked others ..... 1    2    3</p> | <p>___ 15. Restless, high energy level ..... 1    2    3</p> <p>___ 16. Saw/heard things that others can't ..... 1    2    3</p> <p>___ 17. Secretive, kept things to self ..... 1    2    3</p> <p>___ 18. Sexually inappropriate ..... 1    2    3</p> <p>___ 19. Short attention span ..... 1    2    3</p> <p>___ 20. Stubborn, had to do things own way ..... 1    2    3</p> <p>___ 21. Sulked, was silent and moody ..... 1    2    3</p> <p>___ 22. Talked back to staff ..... 1    2    3</p> <p>___ 23. Threatened to harm self ..... 1    2    3</p> <p>___ 24. Too fearful or anxious ..... 1    2    3</p> <p>___ 25. Unhappy or sad ..... 1    2    3</p> <p>___ 26. Withdrawn, uninvolved with others ..... 1    2    3</p> <p>___ 27. Worrying ..... 1    2    3</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Ability to function as part of the group** (participation in groups and GA's, acceptance of treatment goals, desire to change):

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**Positive Changes:**

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**Medical Problems or Side Effects of Medications:**

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## Appendix F

### Informed Assent Agreement

## **Informed Assent Agreement**

At Rivendell we are always trying to make the services we provide better. Our goal is to help all people we work with deal with their emotional and behavioral difficulties so that they will be able to lead happier lives. Residents' opinions are important in checking how well we are doing in meeting this goal. We are interested in whether the residents are doing better in the program. In order to check this we are doing a study to see if things get better and what helps or hurts things getting better. Ms. Poorman will be doing this study as a part of her dissertation.

We will be asking you to answer questionnaires like the ones you answered when you got to Rivendell. You will do the questionnaires during school time. If you have trouble reading, someone will be read the questionnaires to you. The questionnaires should not take more than an hour to do in total and you will not need to do them all at one time. You will be asked to fill out information every other week for the next several weeks. We will ask about your feelings about the program, personal attitudes about being influenced by others, behavior towards self and others, moods and emotions, quality of thinking, and school problems. Other information will be gathered from your medical record such as your age, who you lived with before coming to Rivendell, the medications you are taking, your answers to the questionnaire you completed when you got here, and information from weekly progress notes completed by staff. In addition, staff will be asked to complete a similar questionnaire about your behavior.

In order to protect your confidentiality, the information you provide will be changed into numbers and entered into a computer data file. Your information in the computer will be identified by a code number. Only the computer data files will be removed from Rivendell and no information with your name on it will leave the facility.

Please read this form carefully. We very much hope that you will agree to participate. Studies like this one help us provide you with the better services.

By signing this form, you are agreeing to participate in the study. You understand:

1. If you decide not to participate in any or all parts of this study, your choice will in no way affect the services you will receive or how you will be treated in the program.
2. You can decide to stop at any time.
3. If you have any questions or concerns about the study or would like to get information about the results of the study, you can talk with Ms. Poorman.
4. After you have finished the study, you can receive information about your progress. You can meet with Ms. Poorman to go over the questionnaires you completed and discuss areas in which you changed and did not change.
5. Your caseworker will be contacted to give permission for you to participate in the study since you are still a minor.
6. If you are upset by any of the questions asked by the study, you can talk with Ms. Poorman or the staff at Rivendell.

---

Resident's Signature

---

Date

## Appendix G

### Informed Consent Agreement

## **Informed Consent Agreement**

At Rivendell we are always working to improve the services we provide. Our goal is to help all people we work with cope with their emotional and behavioral difficulties so that they will be able to lead more fulfilling and productive lives. Residents are our most important source of information in evaluating how well we are meeting this goal. We obviously are interested in whether the residents are making progress in the program. In order to assess this we are conducting a study to evaluate residents' treatment progress and look at variables that affect their progress. The study is being conducted by Ms. Poorman as a part of her dissertation.

We will be asking residents to complete questionnaires similar to the ones they completed when they got to Rivendell. They will complete the questionnaires during school time. If they have difficulty reading, someone will be available to read the questionnaires to them. The questionnaires should not take more than an hour to complete in total and they will not need to do them all at one time. They will be asked to fill out information every other week for the next several weeks. We will ask them to report on their feelings about the treatment program, personal attitudes about being influenced by others, behavior towards self and others, moods and emotions, quality of thinking, and school problems. Other information will be gathered from their medical record such as demographic information, intake assessment information, and information from weekly progress notes completed by staff. In addition, two full time staff will be asked to complete a questionnaire about the resident's behavior.

In order to protect their confidentiality, the information they provide will be transformed into numbers and entered into a computer data file. Their information in the computer will be identified by a code number. Only the computer data files will be removed from Rivendell and no information with their name on it will leave the facility.

The residents have been asked to give assent to participation in the study. You were only contacted if the resident agreed to participate. The residents were given an assent agreement similar to this but in language easier for them to understand. They were informed of the following:

1. If they decide not to participate in any or all parts of this study, their decision will in no way affect the services they will receive or how they are treated in the program.
2. They can decide to stop participation at any time.
3. If they have any questions or concerns about the study or would like to receive information about the results of the study, they can contact Ms. Poorman or ask the staff to contact her.
4. After they have completed the study, they can receive information about their progress. They can meet with Ms. Poorman to go over the questionnaires they completed and discuss areas in which they changed and did not change.
5. If they are upset by any of the questions asked by the study, they can talk with Ms. Poorman or the staff at Rivendell.

By signing this agreement, you are agreeing to allow the resident to participate in the study.

\_\_\_\_\_  
Resident's Name

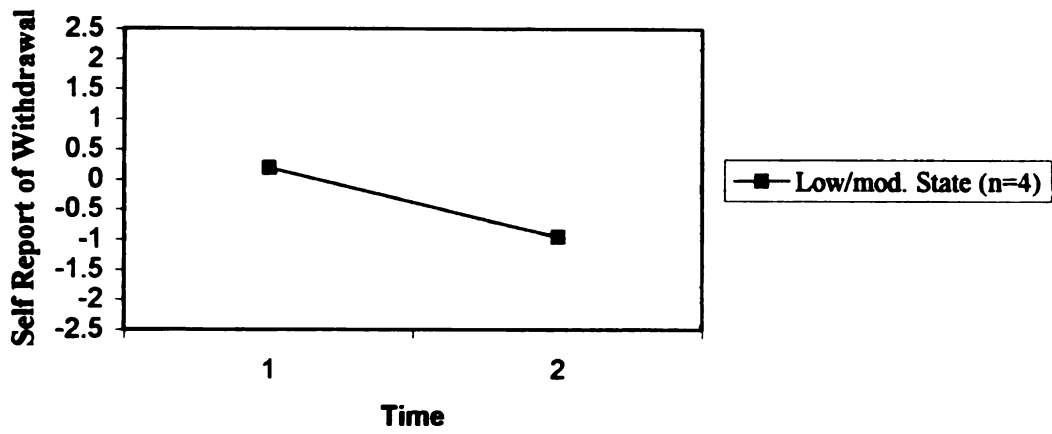
\_\_\_\_\_  
Caseworker's Signature

\_\_\_\_\_  
Date

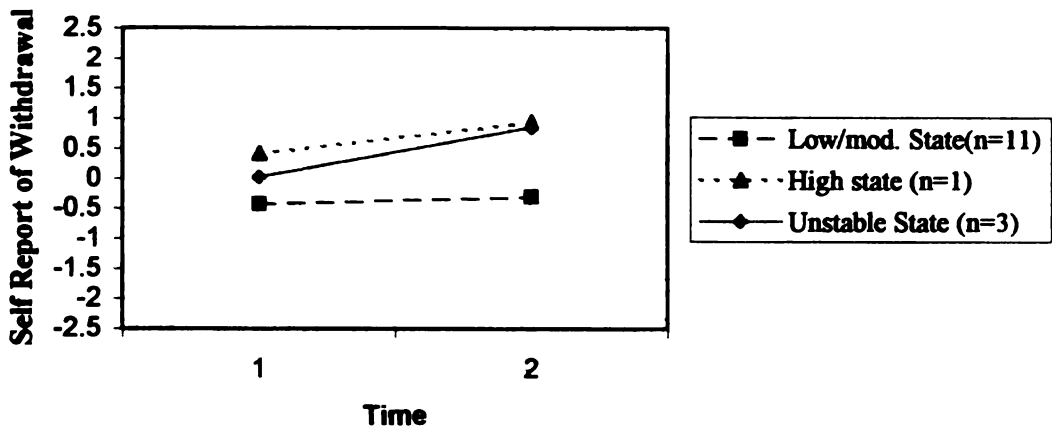
## Appendix H

### Self Report of Internalizing Problems

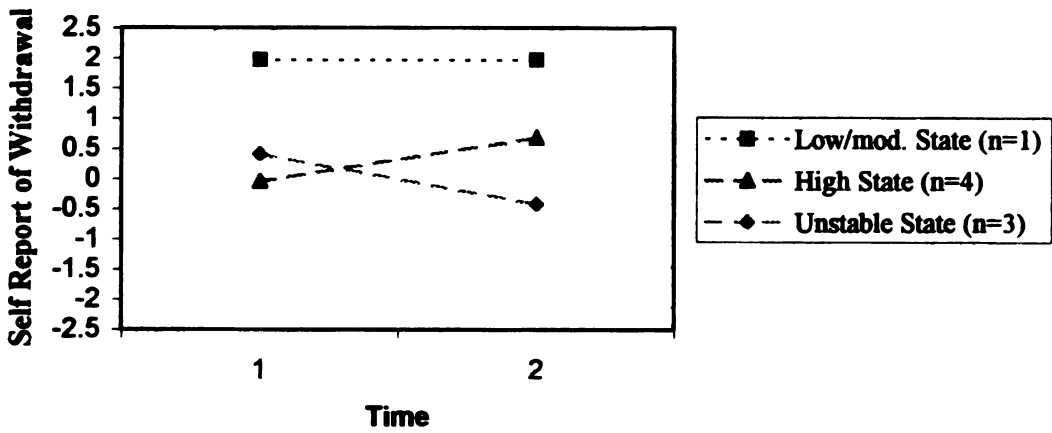
### Low Trait



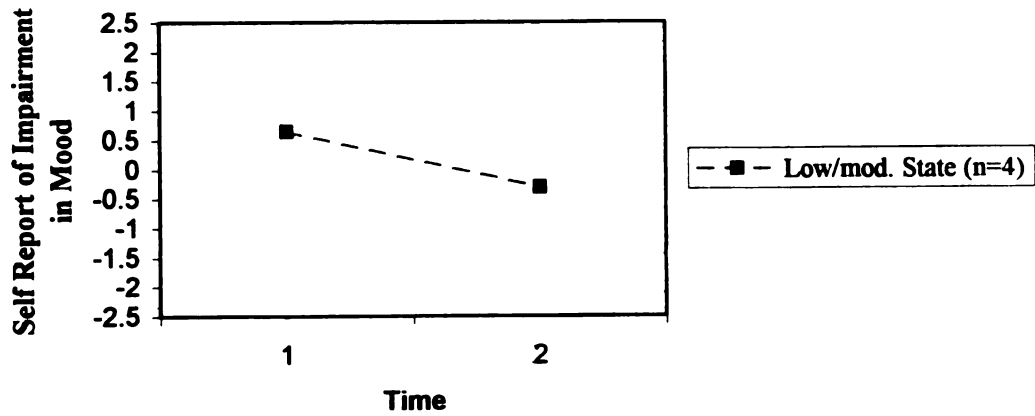
### Moderate Trait



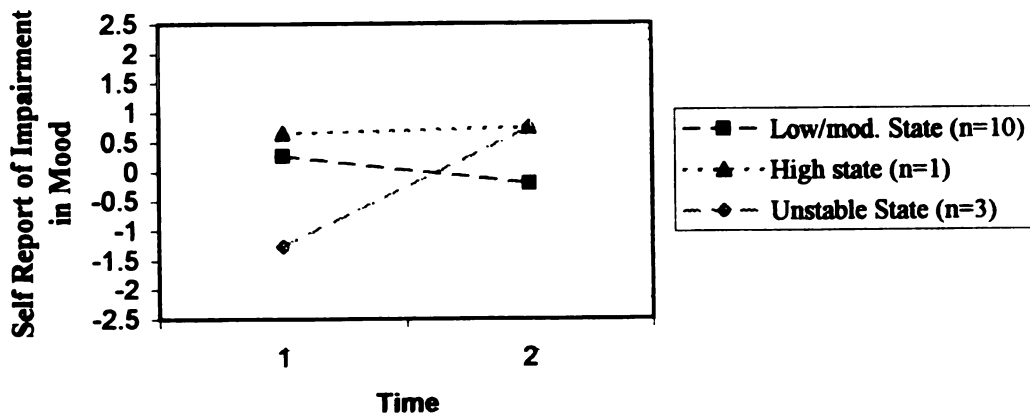
### High Trait



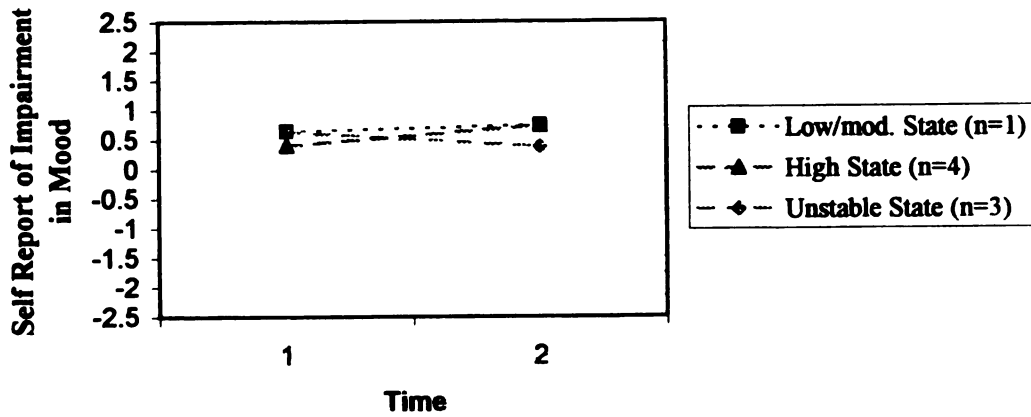
### Low Trait



### Moderate Trait



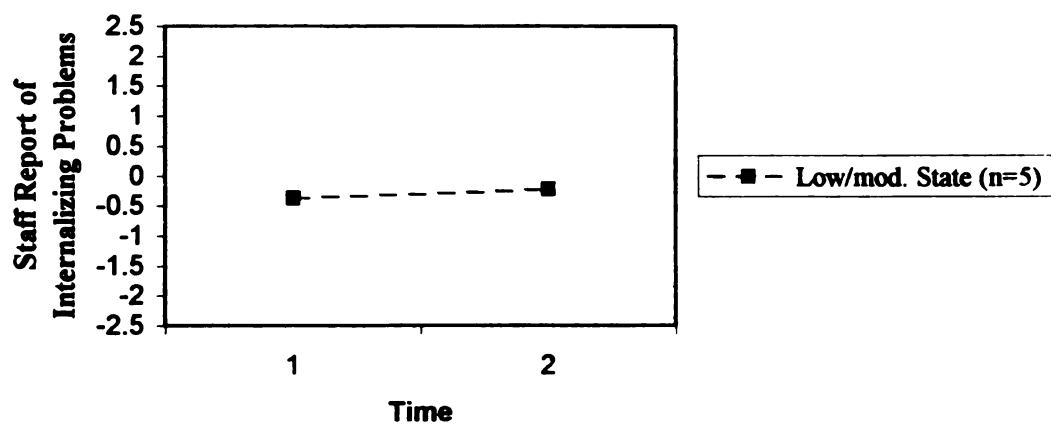
### High Trait



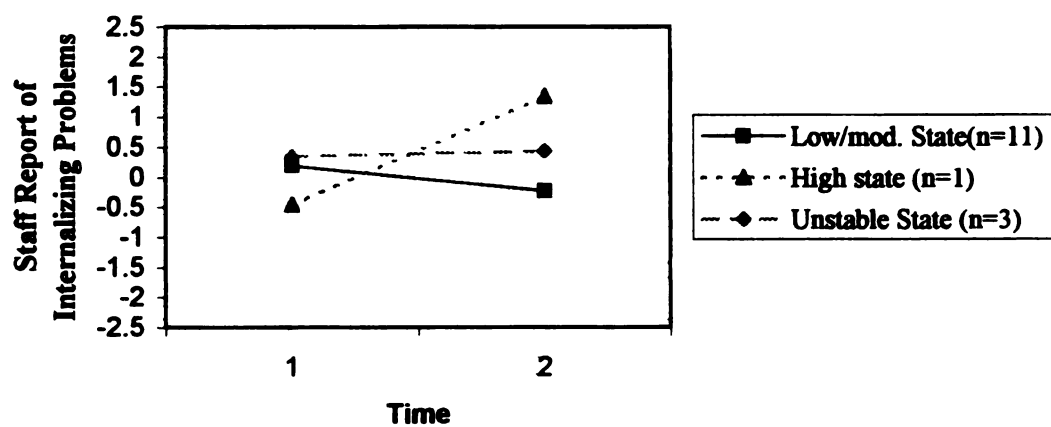
## Appendix I

### Staff Report of Internalizing Problems

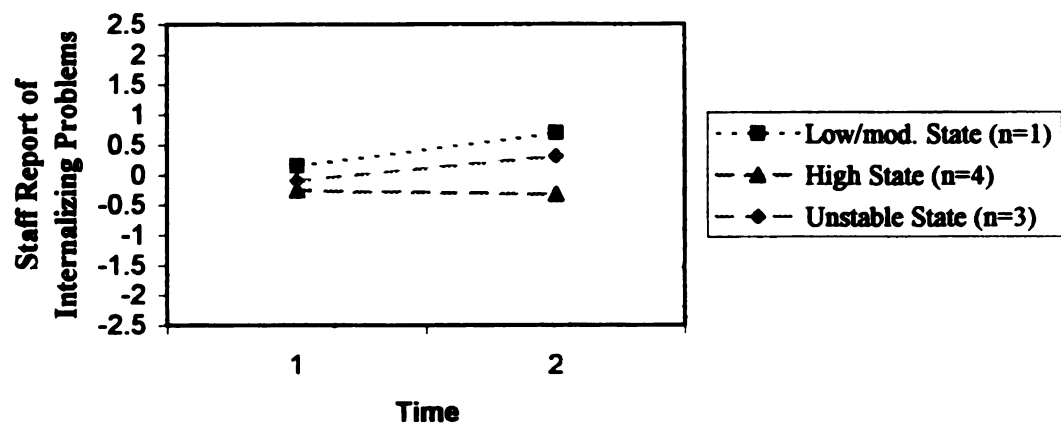
### Low Trait



### Moderate Trait

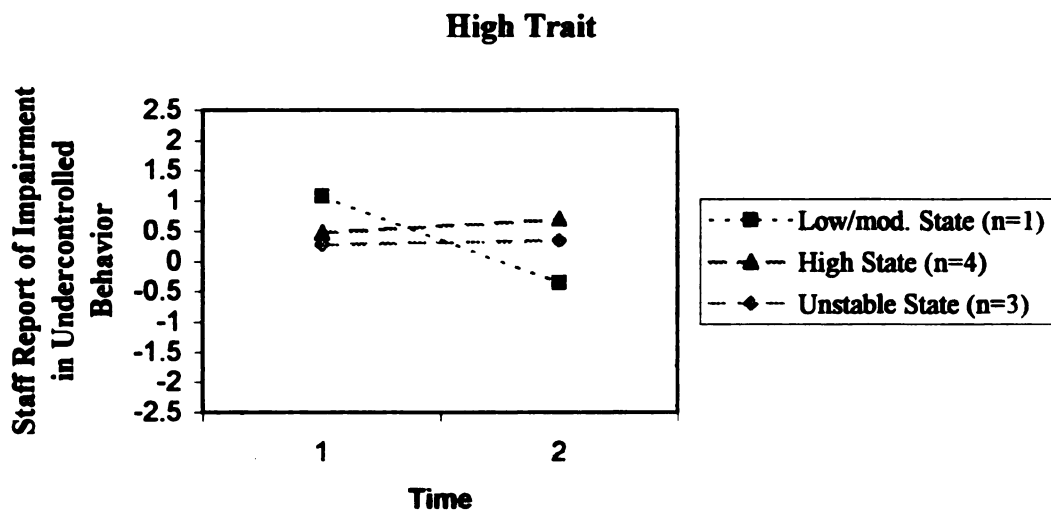
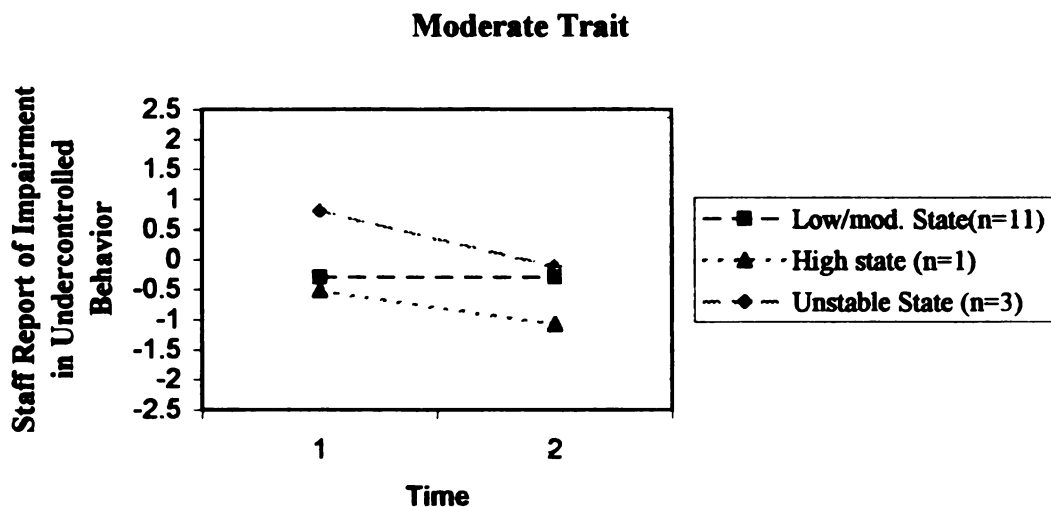
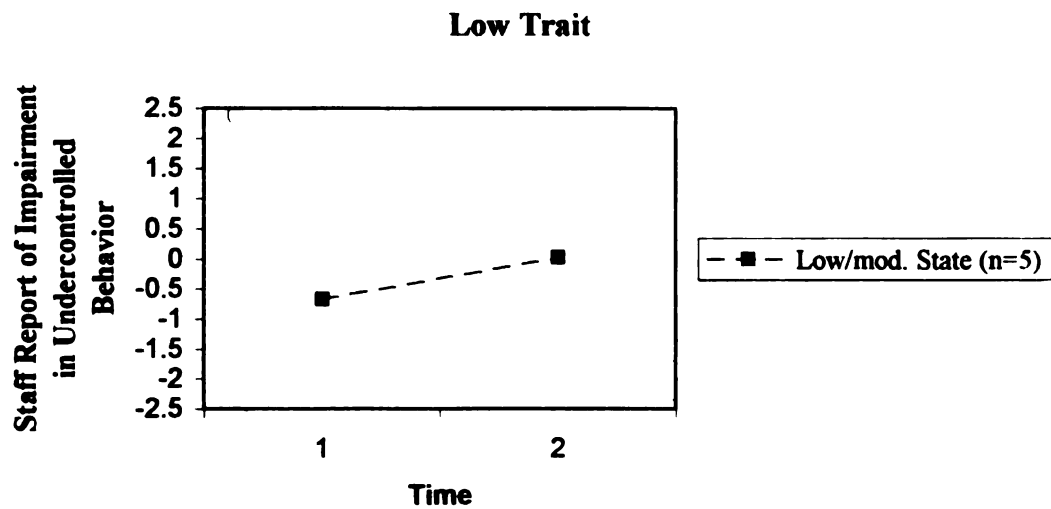


### High Trait



## Appendix J

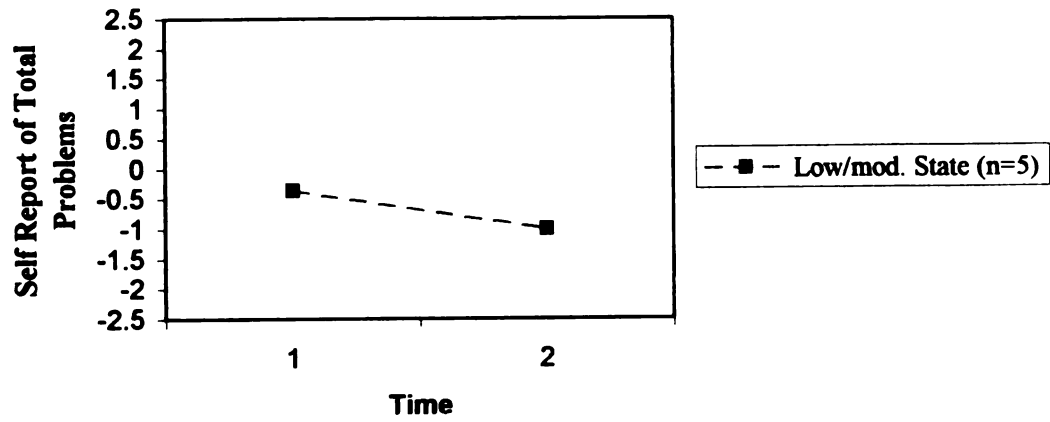
### Staff Report of Externalizing Problems



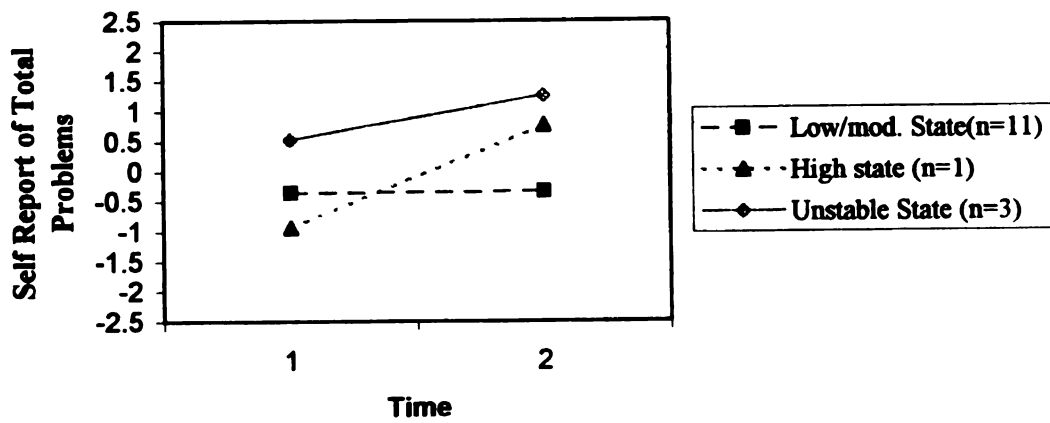
## Appendix K

### Self Report of Total Problems

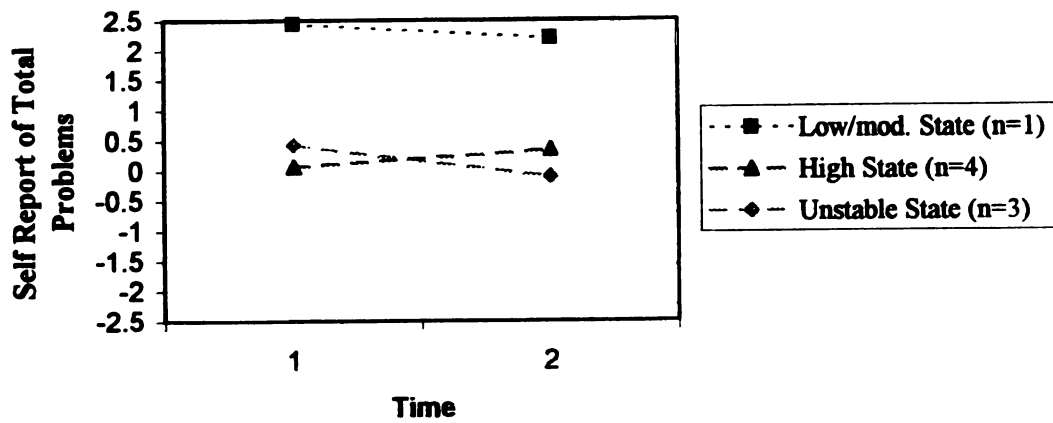
### Low Trait



### Moderate Trait



### High Trait



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