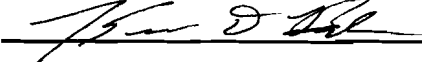


AN ABSTRACT OF THE THESIS OF

Jacob Marszalek for the Master of Science

in Psychology presented on April 6, 1998

Title: Measuring Psychological Reactance in a Group Setting

Abstract approved: 

This study investigated the effects of interpersonal setting on the reactance of the people in that setting. Psychological reactance describes people's motivational states when they perceive they are losing a freedom. The participants in this study were 94 college students (29 men and 65 women). Settings were manipulated as either interactive or non-interactive, and testing was manipulated as either pretest or posttest. The Therapeutic Reactance Scale (TRS) was used to measure reactance. The following hypotheses were tested: (1) a significant difference would exist between the scores of those in an interactive and non-interactive setting; (2) no significant difference would exist between pre- and posttest situations for those in the non-interactive condition; and (3) the scores in the posttest interactive setting would be significantly different from scores in the posttest non-interactive setting. Participants were read a story aloud which presented a problem for them to solve either individually (non-interactive) or with other participants (interactive). The TRS was administered either before the reading (pretest) or after the problem solving activity (posttest). Independent variables were test condition (pretest/posttest) and situation (interactive/non-interactive), and the dependent variable was TRS score. Analysis revealed no significant main effects, and no significant interaction effect, supporting only the second hypothesis. Implications and recommendations for future research are presented, such as exploration of the interaction of gender and situation on TRS score.

MEASURING PSYCHOLOGICAL REACTANCE  
IN A GROUP SETTING

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A Thesis  
Presented to  
the Division of Psychology and Special Education  
EMPORIA STATE UNIVERSITY

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Science

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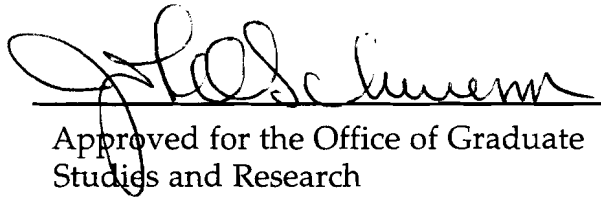
by  
Jacob Marszalek  
May 1998

Thesis  
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Approved for the Division of Psychology  
and Special Education



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Approved for the Office of Graduate  
Studies and Research

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## CHAPTER 1

### INTRODUCTION

Psychological reactance is a term used to describe people's motivational states when they perceive they are losing a freedom. For example, a Midwestern farmer may be told by the federal government that he cannot farm part of his land because it is an endangered species habitat. Because the farmer feels his freedom to farm has been threatened (psychological reactance), he joins a militia group which actively seeks to eliminate the federal government. Joining the militia is a behavioral effect of psychological reactance.

People may also experience psychological reactance when they participate in psychotherapy. Whenever a therapist challenges clients' current ways of thinking or behaving, they may sense a threat to the freedom to think or act. Some effects of his/her psychological reactance may be arguing against the therapist's advice, ignoring the advice, or exaggerating the criticized thinking/behavior.

However, the effects of their reactance--indeed, whether or not they even experience reactance--depend on the situations in which people find themselves. Situations define the choices available and their efficacy in regaining the threatened freedom or in relieving the motivational state. Although some situations may call into play personality variables which have a strong effect on reactance, most will depend mainly on interpersonal variables.

Recently developed clinical measures of reactance--e.g., the Therapeutic Reactance Scale (TRS)--are administered in the absence of interpersonal situations. Therefore, such measures are validated from a personality

standpoint but not from a situational or an interpersonal one. Administering these measures in a group setting should have an impact on their scores. Understanding why this is so requires looking at the theory of psychological reactance more closely.

### The Theory

The Theory of Psychological Reactance (Brehm, 1966; Brehm & Brehm, 1981) proposes that individuals possess “free behaviors” that can be engaged in at the moment or at some future time, and the motivational state of psychological reactance will be aroused whenever any of these free behaviors are eliminated or threatened with elimination. Such a motivational state would be directed toward the restoration of the eliminated or threatened behavior. Brehm (1966) postulated the intensity of reactance as a function of four variables: the importance of the free behaviors to the individual, the perception of the individual of having the free behaviors to begin with, the magnitude of the threat to the free behavior, and the implication of the threat for other free behaviors. Brehm defined reactance as a motivational state which has energizing and behavior-directing properties which may be expressed behaviorally (reactance effects). Several different reactance effects are directly reasserting the free behavior through oppositional behavior, observing others perform the threatened behavior, engaging in a related behavior, aggression against the threatening agent, and exhibiting a greater liking for the free behavior.

### Application

The importance of reactance to many different fields is well documented in the psychological literature. For example, Coca-Cola may have failed in its launching of its revamped flagship soft-drink during the 1980s

because it failed to account for reactance in the general public. According to Ringold (1988), people rebelled against Coke's new formula because they were forced to use a new product, threatening their freedom of choice. Soon after discontinuation, people exhibited a reactance effect by stockpiling the old Coca-Cola formula in order to preserve their freedom of choice. Ringold went on to explain Coca-Cola should have examined consumer preferences first; New Coke had been a planned replacement all along.

Another example of the impact of psychological reactance comes from the medical field. Graybar, Antonnucio, Boutilier, and Varble (1989) studied the relationship between reactance potential and the tone and amount of advice given to smokers who were trying to quit. They found a low amount of negative advice worked best for smokers who had a high potential for reactance, and a high amount of any kind of advice worked best for those with a low potential for reactance. According to these authors, measuring reactance can help doctors determine how to approach their patients in the most effective way. Knowing how to approach clients in the most effective way is also of great value to psychotherapists, especially in the prevention of treatment dropout.

One of the most common reactance effects in therapy is to leave treatment temporarily or permanently, which has various negative consequences for the client; chiefly, the client's condition may worsen. Carter, Turovsky, Sbrocco, and Meadows (1995) studied patient dropout in cognitive-behavioral group therapy. They found the majority of their non-completing patients reported dissatisfaction with the cognitive-behavioral approach as the main reason for discontinuing treatment. Cognitive-behavioral therapeutic techniques often are characterized by structured homework

assignments requiring the clients to sacrifice time to practice a change in the way they think about things, and may be perceived as a threat to free behaviors.

### Psychological Reactance and Psychotherapy

Psychologists have long recognized individual differences among clients are related to the process and outcome of therapy on a number of dimensions. Although clients may differ on many dimensions related in complex ways, relatively little research has been done on client characteristics that mediate the effectiveness of therapeutic techniques (Goldfried, Greenberg, & Marmar, 1990; Parloff, London, & Wolfe, 1986; Strupp, 1978). As of 1994, predictions about continuation or outcome based solely on client characteristics made prior to therapy were not very accurate in comparison to chance (Garfield, 1994). However, Garfield found the research compelling enough to state: "The early perception and reactions of the client appear to be of great importance for both continuation and outcome in psychotherapy" (p. 220).

A few studies did prove to be promising. A literature review on the effect of client variables on the process and outcome of psychotherapy concluded that a number of variables like social class, education, and race predict premature termination of therapy, length of stay in it, and its ultimate outcome better than random guessing (Garfield, 1978). Another review of literature found the largest proportion of the variance in client outcome in therapy explained by client variables (Bergin & Lambert, 1978). The second largest proportion of variance is due to therapist variables, and the third largest is due to variables in therapeutic technique. Because of these earlier

studies, psychologists began to look more closely at client characteristics which could mediate therapeutic outcomes.

Most of the research done on client characteristics deals with global variables such as demographics or general personality factors measured by standard personality instruments (Dowd, Milne, & Wise, 1991). However, Dowd et al. chose to look at the finer-grained client psychological characteristic of psychological reactance. According to Brehm (1976), it is one of the few characteristics with potential for mediating the impact of therapeutic interventions.

### Importance to Therapy

According to the authors of the Therapeutic Reactance Scale (TRS), reactance potential mediates compliance with behavioral tasks, thereby affecting the therapist's suggestions and ultimately influencing the progress and outcome of therapy (Dowd et al., 1991). High reactant clients engage more readily in oppositional behavior (reactance effects), slowing therapeutic progress and negatively impacting therapeutic success. Dowd and Wallbrown (1993) cited evidence which showed the personality pattern of a reactant individual to be defensive, aggressive, dominant, autonomous, and non-affiliative. Reactance effects include higher than average no-show rates, more frequent drop-outs, and less expressed satisfaction with therapy. Rohrbaugh, Tennen, Press, and White (1981) and Weeks and L'Abate (1982) stated the types of effective therapeutic interventions depended on the level of the client's reaction potential and were so variable at times as to seem contradictory. Therefore, the significance of the TRS becomes apparent: an easily administered measure of client reactance potential will assess the

impact of psychological reactance on counseling process and outcome, allowing the therapist to plan treatment more effectively (Dowd et al., 1991).

Dowd et al. (1991) received additional support from two recent studies. Chovanec (1995) reports reactance potential, as measured by the TRS, is one of the two greatest predictors of whether men entering domestic abuse treatment would complete the program. Baker (1994) found a therapist's training level and how it interacts with reactance is more important to treatment than client characteristics and treatment type, providing support for additional training in the management of client reactance.

#### Relationship to Social Psychology: Situations

Although reactance theory offers a useful framework for explaining oppositional behavior in counseling, it does not emphasize individual differences due to its origins in social psychology (Brehm, 1966; Brehm & Brehm, 1981). Cherulnik and Citrin (1974) pointed out a strong implication in the theory: reactance is determined primarily by situational characteristics rather than by individual differences. Though a potential weakness for applications in individual therapy, Cherulnik and Citrin's implication provides strong support for applications in group therapy.

#### Temporal Stability

Not surprisingly, Dowd et al. (1991) found little research in individual differences to test applications of reactance theory. However, they argued reaction potential (the tendency to be oppositional) may be higher in some individuals than others. Brehm (1966) also articulated this idea, and Millon (1969) and L'Abate (1976) were both cited by Dowd et al. (1991) in support of their hypothesis. Jahn and Lichstein (1981) suggested psychological reactance may mediate compliance with behavioral tasks in cognitive-behavioral

therapy. Research evidence has shown reactance potential correlates positively with internal locus of control, especially if the magnitude of the threat is great or the importance of the free behavior is high (Brehm & Brehm, 1981). Brehm and Brehm presented evidence linking Type A behavior with “a lower threshold of threat for the arousal of reactance” (p. 542) than Type B behavior. Dowd et al. asserted linkage of reactance with personality characteristics implies stability over time for the construct.

Bowden (1994) also provides evidence for the stability of reactance by correlating measurements taken by the TRS with measures of personality characteristics, how individuals perceive change, and how they think about their “change goals.” Bowden found significant correlations between psychological reactance and personality characteristics (which by definition do not change readily over time) and how people think about the process of change. Bowden stated her findings add credibility to the argument that reactance is not entirely situational but more of a person-in-situation characteristic. Temporal stability and variance across individuals are the cornerstones of the TRS devised by Dowd et al. (1991). Theoretically then, reactance potential is a stable trait across setting and time, just like IQ. Therefore, if the TRS truly measures reactance potential, the individual should score the same whether in a group or individual setting.

### Behavioral Change in Group Settings

Social scientists have long established that individuals behave and think differently in group settings than when alone or part of a dyad. In certain kinds of group situations, people are more likely to abandon social restraints, to lose their sense of individual responsibility, to become what Festinger, Pepitone, and Newcomb (1952) label deindividuated. In a study by

Prentice-Dunn and Rogers (1980), unselfconscious, deindividuated people were less restrained, less self-regulated, more likely to act without thinking about their own values, and more responsive to the situation of the moment. These characteristics sound similar to those outlined earlier by Dowd, Wallbrown, Sanders, Daniel, and Yesenosky (1994) as elements of the highly reactant personality. Joubert (1995) linked deindividuation with reactance. He reported people scoring higher on psychological reactance were more frequently reporting the performance of several socially disapproved personal habits: nose picking, nail biting, spitting, scab picking, giggling, hair pulling, and repeating another's speech.

Another way in which reactance may be affected by a group situation is through social arousal. When in the presence of others, people generally become more aroused. According to Geen and Gange (1983), people perspire more, breathe faster, tense their muscles more, and have higher blood pressure and a faster heart rate. Zajonc and Sales (1966) found people are not only aroused by being in a group but are aroused in a specific way. Arousal facilitates whatever response is dominant in a person, and reactance potential is one way of identifying a dominant response.

Cottrell, Wack, Sekerak, and Rittle (1968) expanded on Zajonc's research. They discovered the enhancement of dominant responses was highest when people thought they were being evaluated. When in a group therapy session, clients are in a situation in which they are aware the therapist is monitoring them for evidence of improvement. Therefore, when in a group therapy session rather than an individual therapy session, clients with a high potential for reactance are more likely to exhibit reactance effects



due to social arousal, just as Cherulnik and Citrin (1974) implied in their research.

### Group Psychotherapy

Group psychotherapy is any form of collective therapeutic treatment. Frequently, the process involves group meetings with the therapist, who acts as the discussion leader. It is assumed that hearing other people's problems and how they are being resolved may have both cathartic and therapeutic effects on the individual (Corey, 1991). Evidence suggests group therapy can be as effective or more effective as individual therapy in many situations. One study in the treatment of bulimia found group therapy and individual therapy were equally effective treatment modalities when compared with drug therapy or no therapy (Pyle, Mitchell, Eckert, & Hatsukami, 1990).

In a meta-analysis of treatment modalities, Tillitski (1990) found group therapy and individual therapy consistently had measurable effects greater than the control group in which no treatment was provided. Tillitski also found adolescents responded much better to group therapy than to individual therapy. Tillitski's finding provided evidence of significant differences between group and individual therapy, necessitating validation of any measurement of reactance to be independently validated for group psychotherapy.

The relevance of psychological reactance to group therapy can be traced to an article by Carl Rogers (1969) in which he described its major events. Rogers explained the first event in the group therapy process is the testing of the freedoms of the group and negative feelings arising from the strain of such testing. Dowd et al. (1994) provided insight into how the highly reactant individual can exacerbate the inherent tension in group therapy outlined by

Rogers. According to them, the dimensions of the reactant personality style are a lack of interest in making a good impression, carelessness in meeting obligations, intolerance of others' beliefs, resistance of rules and regulations, concern about problems and the future, and an inclination to express strong feelings and emotions. Perhaps the most powerful argument for measuring reactance in group therapy comes from Flegel (1990), who asserted "the expression of ego and conformism poses threats to group membership and individual development that the therapeutic process must reconcile" (p. 39).

Adolescents face the same issues in their natural development which Flegel cites for participants in group therapy. Additionally, according to Larson and Ham (1993) and Csikszentmihalyi and Larson (1984), teenagers have unstable personality characteristics due to rapid development and the ensuing difficulty in adjustment. Unstable personality characteristics may be linked to high levels of reactance, oppositional behavior, or other related constructs. Hong, Giannakopoulos, Laing, and Williams (1994) reported in a study of over 1700 people aged 18-40 years, the highest levels of reactance were found among those in adolescence or just finished with adolescence. Thus, the relevance of an accurate measure of reactance becomes readily apparent for adolescents in group therapy.

People with mental illness are another group with unstable personality characteristics. Even though group psychotherapy has been shown to be just as effective as individual therapy in the treatment of mental illness, discontinuing therapy early is still a problem. In one recent study, for example, Blouin, Schnarre, Carter, and Blouin (1995) found 28.7% of clients with full DSM III-R qualification for bulimia drop out of group treatment. Levens (1990) found patients with bulimia and borderline personality

disorder had a particularly rough time in group therapy. As predicted by reactance theory, clients benefited the least when engaged in structured activities like group drawings or mosaics and benefited the most when engaged in non-structured individual activities like drawing. Structured activities threaten perceived freedom more than unstructured activities, and knowing an individual's reactance potential will provide perspective in the decision about what course of treatment to take for clients with eating disorders. Again, the relevance of an accurate measure of reactance in group therapy is well illustrated.

### Gender Differences in Reactance

Knowing the relationship of gender to reactance is invaluable to gaining insight into client situations and their behavior (or probable behavior) in group therapy. Another measure of psychological reactance developed by Hong and Page (1989), the Psychological Reactance Scale (PRS), has been used to explore the possibility of gender differences in reactance potential. Hong and Langovski (1994) found no significant difference between male and female scores on the PRS. No significant difference was found between the sexes in two other studies led by Hong using the PRS either (Hong, 1990; Hong et al., 1994). Hong's findings are not surprising since reactance potential is theoretically a stable trait across personality and demographic characteristics. One may assume there are no gender differences, and the TRS should detect none.

### Summary

The theory of psychological reactance proposes a motivational state arises when a person perceives a threat to free behaviors (Brehm, 1966). The likelihood an individual will experience reactance is termed that person's

reactance potential. Reactance potential, theoretically, is a stable personality trait, unchanging across time or situation. The Therapeutic Reactance Scale (TRS) developed by Dowd et al. (1991) measures reactance potential.

Overlooked by Dowd et al. in their validation of the TRS was the profound change in behavior which occurs when a client is placed within a group. Individuals tend to lose their inhibitions and self-awareness in group situations (Festinger, Pepitone, & Newcomb, 1952), which are the primary tools of managing reactance. People also tend to become aroused by merely being in a group, and when aroused, fall back on the dominant natural response inherent within them (Cottrell et al., 1968). Therefore, people may experience more reactance and a higher potential for reactance within a group setting. If the TRS truly measures reactance potential, and reactance potential truly is a stable trait, people should have the same score on the TRS whether in a group setting, where there is interpersonal interaction or the high probability of it, or in an individual setting, which is defined by the nonexistence of interpersonal interaction. The purpose of this study was to test that notion.

The following hypotheses were tested: (1) a significant difference would exist between the scores of those in an interactive and non-interactive setting; (2) no significant difference would exist between pre- and posttest situations for those in the non-interactive condition; and (3) the scores in the posttest interactive setting would be significantly different from scores in the posttest non-interactive setting (please see Figure 1).

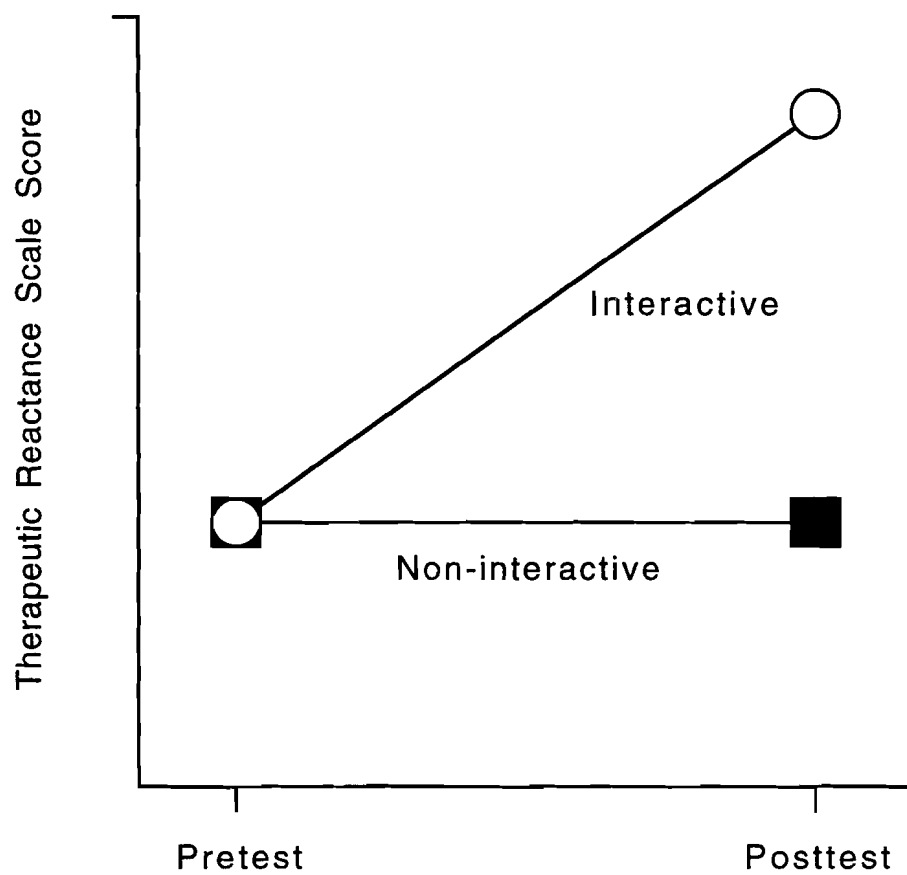


Figure 1. Graph of expected group means: here, the posttest interactive group is significantly different from the pretest groups and the posttest non-interactive group. All other groups show no difference.

## CHAPTER 2

### METHOD

#### Participants

Participants were 94 Emporia State University students (29 men, 65 women) who had been taking introductory psychology or developmental psychology courses or who were living in the residence halls. One Black and one Asian student participated; whereas the rest were Caucasian. Participants were given one credit for participation in the study after the conclusion of the experimental session.

#### Sampling Procedures

Students taking the introductory psychology courses are required to participate in research each semester. The author posted a sign-up sheet on a bulletin board assigned specifically for such sign-up sheets. The sheet specified the age requirement of 17 to 24 years of age in order to reduce the possible confound of age. All volunteers were guaranteed the right to refuse to participate in the study, and were offered educational alternatives to the benefits to be gained from such participation (see Appendix A). Permission for recruiting student volunteers was obtained from the Institutional Review Board for the Treatment of Human Subjects.

In the residence halls, participants were recruited through announcements made by professional staff members at student and staff meetings. Volunteers either arranged to meet with the experimenter solely for the purpose of conducting an experiment or in conjunction with a regular student meeting. Permission was sought and received from the Office of Residential Life.

### Experimental Design

This design was a pretest-posttest counterbalanced comparison group design and was to demonstrate simultaneously the reliability of the TRS in individuals and the arousing effects the group has on reactance. One independent variable was receiving interaction or no interaction while working on a problem. The other independent variable was whether the individual was given a pre- or posttest. The dependent variable was the participant's score on the TRS. One of the two experimental groups was given a pretest, the other was given a posttest, and the two groups were compared, thus eliminating the danger of a pretest bias. The comparison groups were handled in the same manner to provide for valid comparisons.

### Instrumentation

In their initial validation study, Dowd et al. (1991) showed the TRS had a test-retest reliability ranging from .57 to .60 over three weeks, and an internal consistency reliability rating ranging from .75 to .84. Convergent validity was claimed with a correlation of .27 ( $p < .01$ ) between the TRS and the measure of internality on the Rotter Internal-External Locus of Control Scale. According to Brehm and Brehm (1981), locus of control and psychological reactance have a significant positive relationship. Dowd et al. (1991), citing theoretical support for an inverse relationship between the K scale of the Minnesota Multiphasic Personality Inventory 2 (MMPI-2) and the TRS, reported a correlation of  $-.48$  ( $p < .01$ ) between the two measures, a finding replicated by Baker, Marszalek, and Sullivan (1997). Baker et al. also found a correlation of .31 ( $p < .01$ ) between the TRS and the Authority Conflict subscale of the MMPI-2.

Dowd et al. (1991) demonstrated divergent validity of the TRS by

comparing it with the Beck Depression Inventory (BDI) and the State-Trait Anxiety Inventory (STAI). The correlation between the TRS and the BDI was clinically insignificant at .11 ( $p < .05$ ), as was the correlation between the TRS and the STAI (.06). Dowd et al. concluded the TRS does seem to measure a construct other than depression or anxiety.

For construct validity, Graybar, Antonuccio, Boutilier, and Varble (1989) reported the TRS predicted which types of physician advice work best for high or low reactant smokers in a smoking treatment program. Tracey, Ellickson, and Sherry (1989) concluded that high-reactant, high experience counselors prefer unstructured supervision whereas low reactant, high experience counselors prefer structured supervision.

### Procedure

All participants read, signed, and returned the informed consent document to the experimenter before any other step was taken. Participants were assigned to one of four groups: pretest experimental, posttest experimental, pretest comparison, and posttest comparison. Assignment was determined by recruitment. Whoever volunteered on a particular day and which design cell needed filling influenced group assignment. Participants in the control groups had no interaction with one another, while those in the experimental groups did interact. After being asked to divide into groups of four or five, participants in the experimental groups introduced themselves to one another, thus familiarizing themselves with their groups in order to more closely approximate a group therapy setting.

The experimenter read the participants a story (see Appendix B) out loud to further foster an atmosphere in which reactance would be likely. The story presented a problem which each group must solve: having been



marooned on a South Pacific island, what should one do in order to survive? A list of 10 “action alternatives” were provided by the experimenter to each participant, who then must rank order the alternatives in descending order of importance to survival. The experimenter told the participants their answers would be compared to an expert ranking. All participants rank ordered the alternatives individually. In the experimental groups, the experimenter asked the participants to arrive at a group ordering of the “action alternatives.”

All participants were given 20 minutes to develop their answers. The time limit was an important way of ensuring an occasion for reactance to be activated within the participants, as was shown by Linder and Crane (1970), and Linder, Wortman, and Brehm (1971). The pretest experimental group was given the TRS (see Appendix C) before the introductions in order to avoid activating reactance through the threat of interpersonal interaction, and the posttest experimental group was given the TRS after the time period expired. The pretest comparison group took the TRS before being read the story, and the posttest comparison group also was given the TRS after time expired. In the pretest groups, the expert rankings were shown after the participant/group rankings were completed. In half of the sessions, participants in the pretest condition were not required to do the problem solving activity. However, the experimenter told those participants they would have to do the activity after they had completed the TRS. In the posttest groups, the expert rankings were shared after everyone had completed the TRS.

## CHAPTER 3

### RESULTS

Because the participants were drawn from two different sources-- psychology courses and residence halls--a preliminary 2 (pretest/posttest) X 2 (interactive/non-interactive) X 2 (residence halls/classes) analysis of variance (ANOVA) was conducted in order to assess the effects of this possible confound. The Testing X Situation X Participant interaction was not significant,  $F(1, 86) = 0.70, p > .05$ . However, one of the groups in this analysis had only five participants, so strong conclusions cannot be drawn. The effect for source of participants was not significant, thus scores were pooled for participants regardless of where they were obtained.

To test the main hypotheses of this study, a 2 (pretest/posttest) X 2 (interactive/non-interactive) ANOVA was conducted. Participant scores on the Therapeutic Reactance Scale (TRS) served as the dependent variable. Theoretically, scores had a potential range of 0 to 28, and higher scores corresponded with higher levels of reactance potential. An analysis of the testing variable revealed no significant differences between pre- and posttest administrations of the TRS,  $F(1, 90) = 2.04, p > .05$ , with respective means of 10.88 ( $SD = 3.25$ ) and 11.65 ( $SD = 4.82$ ). Analysis of the situational variable revealed no significant differences between non-interactive and interactive settings,  $F(1, 90) = 1.00, p > .05$ , with respective means of 12.24 ( $SD = 4.04$ ) and 10.72 ( $SD = 4.49$ ). Likewise, no significant interaction between the two variables was shown,  $F(1, 90) = 1.93, p > .05$ . Table 1 contains the interaction means and standard deviations, and Table 2 contains a complete summary of the analysis of variance.

Table 1

Summary of Means and Standard Deviations of TRS Score by Situation and Test

Participant Group	<u>n (men, women)</u>	<u>M</u>	<u>SD</u>
Non-interactive/ Individual Setting			
Pretest	17 (1, 16)	10.71	3.51
Posttest	24 (4, 20)	13.33	4.10
Interactive/Group Setting			
Pretest	15 (10, 5)	11.07	3.04
Posttest	38 (13, 25)	11.11	4.94
Total Sample	94 (29, 65)	11.60	4.30

Table 2

Summary of Factorial Analysis of Variance of Therpeutic Reactance Scale  
Score as a Function of Situation (Interactive or Non-interactive) and Test  
(Pretest or Posttest)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Situation	1	18.02	18.02	1.00	.32
Test	1	36.74	36.74	2.04	.16
Situation X Test	1	34.64	34.64	1.93	.17
Error	90	1617.38	17.97		

The statistics for the testing comparison had a power of only .292 and for the situation comparison .175. Power for the Situation X Test interaction was .278. These figures indicate the experimental design did not sufficiently account for all relevant variables.

## CHAPTER 4

### DISCUSSION

The first hypothesis of this study, TRS scores would differ significantly when taken in an interactive setting rather than a non-interactive setting, was not substantiated by the data. Likewise, the hypothesis stating TRS scores would differ significantly in the interactive setting when administered as a pretest rather than a posttest was not substantiated. However, the hypothesis stating there would be no significant difference between TRS scores administered as a pretest or a posttest was supported by the data.

The foremost explanation for these results may be the absence of any effect of group interaction on an individual's reactance potential. One social psychology theory which would explain this absence is arousal enhances whatever response tendency is dominant (Zajonc, 1965). After being aroused by social interaction, the participants' scores could be more extreme in both directions. Another explanation for the lack of significant effects in this study may be the relatively mediocre reliability reported by Dowd, Milne, and Wise (1991).

Although two of the three hypotheses were not supported by the data collected in this experiment, the power of the statistics may indicate the design of this study is insufficient to provide definitive answers. One variable unaccounted for by the experimental design was the types of participants used. Participants were recruited from two sources: introductory and developmental psychology courses and residence halls. Because the experimenter works in the residence halls, many of the participants from that source may have been compromised by familiarity with the experimenter. Many residence hall volunteers were residence hall student staff members

who had been selected for their jobs partly on the basis of being able to calmly handle crisis situations. This selecting out of those unable to calmly handle student arguments, conflicts, and emergencies may have also selected out individuals who would score highly on the TRS or other measures of reactance potential. However, after a preliminary analysis of a comparison between the participant groups, no significant interactions were found.

Another possible source of error may have been in the experimental conditions themselves. Experimental sessions were rarely in the same room. Some rooms had individual desks which make it difficult to interact with others. Other rooms had tables which make it easier for interaction. Most of the participants from psychology classes attended experimental sessions in classrooms. Many residence hall participants attended sessions in informal settings such as apartments, residential rooms, or offices where the students may have felt more empowerment. Feelings of empowerment and relaxation may mediate reactance (Brehm & Brehm, 1981).

Another variable which may account for the absence of significant effects may be the problem solving situation itself. Although purposefully long in order to increase the potential for reactance, the story's narration may have been relaxing in nature with excessive description of a romantic tropical paradise permeating the story. This potentially relaxing effect may have mediated any tension caused by sitting through a reading or by the anticipation of interacting with others. Additionally, the reading of the story differed slightly with each session. Although the story and procedures were read from a script and care was taken to present the material in the same way to all participants, some types of communication are difficult to control. For example, if the experimenter had been experiencing frustration before the

session, his reading of the story may have been more energetic than in previous sessions. The perception of the story may also have been affected by the reader's stance, posture, pattern of movement, and other non-verbal actions.

Confounding may also have resulted from the gender composition of various experimental sessions. Although it was shown by Hong and Langovski (1994), Hong (1990), and Hong et al. (1994) that gender has no bearing on reactance in a non-interactive setting, there is evidence indicating it may have a bearing on interactive settings. Gilligan (1982) stated women and men are different in the way in which they cooperate to solve problems. Women, she says, generally are concerned with building consensus, feeling supported, and empathizing with the plight of others. Men, on the other hand, generally deal with principles and logic in order to solve a problem as a group. The methods attributed to women may be more likely to reduce reactance by making others feel supported and empowered, and the methods attributed to men may be more likely to induce it by making others conform to logic and principles. Because some experimental sessions involved only women, the data collected from those sessions might be compromised because reactance was mediated.

### Implications

The initial interpretation for the results of this study is the TRS may be appropriate to use for clients in group situations. This interpretation should be accepted with caution, however, because of the confounding discussed in the previous passage. Although experimenter error explains why a hypothesis may be unsubstantiated, it also explains why caution is warranted when claiming its polar opposite.



Therapists should understand, however, the questions raised about the stability of the TRS across interpersonal situations have been left unanswered. This study has provided no basis for the discontinuation of the use of the TRS in group therapy, but neither has it provided a mandate for its use. The research contending a change in human behavior when placed in group/interactive settings, whether the change is social (Prentice-Dunn & Rogers, 1980) or biological (Geen & Gange, 1983), remains to be refuted by research on the TRS or on any aspect of reactance. And until it is refuted, the danger remains of basing treatment decisions on tenuous conclusions.

Another interpretation of the results of this study provides a stronger conclusion about the applicability of the TRS: the TRS may be consistent across administration settings. The data show a promising direction for further research into the reliability of the scale itself because no significant difference in scores was found across four different experimental conditions. Scores were consistent whether the TRS was administered before or after interpersonal interaction, and whether or not interaction was present. Reliability exhibited across social situations lends support to the idea reactance is a stable personality trait.

### Recommendations and Conclusions

Although the data for this study showed no significant effects for interaction settings, pretest-posttest comparisons, or for the interaction of setting and testing, the results should be considered tenuous and require further support. Recommendations for future studies include the following: (a) use one source for participant recruitment; (b) use the same type of setting and perhaps the same room for all experimental sessions; (c) use a different method of activating reactance; (d) have a mixed gender participant group for

each interactive experimental session or make gender a variable in the design; and (e) increase the overall number of participants as well as the number of participants in each group. Additional studies which may reveal important information about reactance in interactive situations would include comparisons between single and mixed gender groups, or between varying levels of male participants in each group.

Although this study revealed no significant differences between interactive and non-interactive test scores, or between pretest and posttest interactive groups, there were no strong indications such differences would not be possible in future studies. Additionally, this study revealed no significant differences between pre- and posttest scores, as predicted. This result provides additional evidence of the reliability of the TRS, and adds the further dimension of reliability across interpersonal situations. It is hoped in further research with more rigorous controls the existence or non-existence of interpersonal effects on TRS scores can be established with greater certainty. Because of the need to be able to assess client characteristics and their effect on group therapy outcomes, such research is needed.

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## APPENDIX A

## Informed Consent Document

The Division of Psychology and Special Education supports the practice of protection for human subjects participating in research and related activities. The following information is provided so you can decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time, and if you do withdraw from the study, you will not be subjected to reprimand or another form of reproach.

You will be asked to solve a short problem, either alone or with a small group of no more than five people. You may be asked to join in a short game of verbal introductions (an icebreaker). Either before or after attempting to solve the problem, you will be asked to fill out a short questionnaire about yourself.

You may benefit from participation by gaining credit for class, meeting a new friend, or learning something about your own problem solving ability and how you get along with other people. Other ways to accomplish the same things include attending several university courses, or getting involved in an extra-curricular activity.

“I have read the above statement and have been fully advised of the procedures to be used in this project. I have been given sufficient opportunity to ask any questions I had concerning the procedures and possible risks involved. I understand the potential risks involved and assume them voluntarily. I likewise understand that I can withdraw from the study at any time without being subjected to reproach.”

---

 Subject

---

 Date

## APPENDIX B

### Marooned: A Team Adventure

The following passage is read aloud to the groups before they are given answer sheets and directions. It was developed by Rollin and Christine Glaser (1993) in order to train people in leadership skills.

#### The Adventure Begins.

It was 1:40 a.m. as the giant 747 descended through the clouds from 37,000 feet. The runway and lights of Faa International Airport were not yet visible, although a tropical moon glimmered faintly on the South Pacific Ocean below. You and your group of friends were about to realize the efforts of a year's worth of planning for a pleasure cruise among the French Polynesian Islands.

Your group had a restless night flying from Los Angeles, a distance of more than 4,000 miles. The remainder of the night was consumed with sleeping in native style over-the-water, thatched-roof bungalows at a nearby island motel.

Your first day in the islands was to be spent in Papeete, capital of Tahiti, the largest and most populated of the Society Islands archipelago. When all of you finally awakened, you were treated to a warm, sunny day, characteristic of October in the islands. The temperature was a balmy 85 degrees, accompanied by a gentle breeze.

Following a quick lunch, your group was transported to the dock where the cruise ship was moored. It was a graceful, long, white sailing vessel, equipped with the latest in electronically controlled riggings and luxurious staterooms. What a trip was in store for your group!

### The Beautiful Voyage.

The graceful white ship left the dock punctually at 4:00 p.m.. Each week, the vessel makes the same trip, sailing from Papeete to Huahine, then to Raiatea, Bora Bora, Moorea, and finally returning to Papeete. Then it takes on a new group of passengers and retraces its route once again. Some weeks, of course, the ship remains at the dock or is hauled out of the water for repairs and maintenance. On this cruise you were occupying yourselves exactly as your predecessors had done. Along with the other passengers, your group has gone sight-seeing at each island stop, engaged in a variety of water sports, read, made new friends, and generally consumed too much food and drink.

On the fourth day out, it is a tradition for the ship to host a beach picnic for the passengers on an unnamed, uninhabited, isolated atoll--weather permitting. An atoll is a low coral island. The atoll your group has visited today is approximately two miles long and encircled by an aquamarine lagoon of perfect clarity. Tall coconut palm groves cover the coastal strip beyond the white coral sand beach. Behind the palm trees, occasional jagged volcanic peaks can be seen, covered by screw pines, chestnut, purata, and various native vegetation.

Through out the morning, the chef and crew ferried food and drink to the atoll and readied a barbecue of mahi mahi and other grill food. Your group and the other passengers arrived at noon by motorized, inflatable rafts. Everyone romped in the water, played frisbee, and feasted on the delicacies. As expected, everyone ate and drank as if they had not been fed during the cruise until that moment.

### A Walk into Paradise.

This afternoon, as the searing tropical sun reached the two o'clock position in a cloudless azure sky, one of your group suggested, "Let's explore the island and walk off this lunch." The rest of you quickly agreed, and while the other passengers were swimming, playing, and dozing on the beach, your group headed off through the dense luxuriant vegetation.

One member of your group is keenly interested in the flora and fauna of wherever he travels. He had just been reading a book about Polynesian plants and flowers. Although the group was only half listening, he kept up a running monologue on everything he recognized from his reading. "It's hard to believe that none of these plants and flowers are native to these islands. They were brought here by the first explorers," he said. "Just look at these flowers: red plumeria--giant pink hibiscus--yellow creepers--white tiare. This is really beautiful, isn't it? And look--here are fruits like the papaya--star fruit--and breadfruit. That's a banana tree over there. The fruit isn't ripe yet, but in a few days, maybe. This is truly a paradise!"

After walking for about 20 minutes, you reached a beautiful stretch of beach on the other side of the island. Tired from your walk and heavy meal, everyone dropped down, stretched out, and drifted off to sleep.

### Overtaken by Disaster.

At four o'clock, one of your group woke with a start. Perhaps it was the chills and fever caused by the burn she received from the sun. She glanced at her watch, and realizing that two hours had passed, she forgot her sunburn for the moment and hurriedly aroused the rest of you. Without a word all of you hurried back to the site of the noontime picnic. Gone! In a flash everyone's worst fears have been confirmed. The ship and your fellow

passengers have departed without you. Even your beach towels had been picked up when the crew policed the beached. Now, as you stare in disbelief, the graceful white ship is disappearing from sight on the horizon.

One member of your group has become hysterical. "What will we do?" she cries, as she runs frantically up the beach waving her arms as though to summon back the ship.

Indeed, what *can* you do? Probably no one will miss your group today until it is too late for the ship to return for you. "I'm glad we hung those privacy signs on our doors," one member of your group announces ironically to no one in particular.

The hysterical group member is pacing back and forth at the other end of the beach. The rest of you have grown silent, gazing out from the beach to the sea. The color of the water is striated into shades of green, blue, white, and gray. Closest to the shore, the water is clear and colorless--the features of the bottom can be easily fathomed. Further out, the water becomes turquoise. Small waves are breaking white against the coral reef, and even further out to sea the water turns cobalt blue. The colors are a treat to the eyes of your *marooned* group--unfortunately its only treat for some time to come.

## APPENDIX C

## Therapeutic Reactance Scale

Please respond to each of the following true/false questions with the answer that is most often true of you. There is no time limit.

1. If I receive a lukewarm dish at a restaurant, I make an attempt to let it be known. T F
2. I resent authority figures who try to tell me what to do. T F
3. I find that I often have to question authority. T F
4. I enjoy seeing someone else do something that neither of us is supposed to do. T F
5. I have a strong desire to maintain my personal freedom. T F
6. I enjoy playing "devil's advocate" whenever I can. T F
7. In discussions, I am easily persuaded by others. T F
8. Nothing turns me on as much as a good argument. T F
9. It would be better to have more freedom to do what I want on the job. T F
10. If I am told what to do, I often do the opposite. T F
11. I am sometimes afraid to disagree with others. T F
12. It really bothers me when police officers tell people what to do. T F
13. It does not upset me to change my plans because someone in the group wants to do something else. T F
14. I don't mind other people telling me what to do. T F
15. I enjoy debates with other people. T F
16. If someone asks a favor of me, I will think twice about what this person is really after. T F
17. I am not very tolerant of others' attempts to persuade me. T F
18. I often follow the suggestions of others. T F
19. I am relatively opinionated. T F
20. It is important to me to be in powerful position relative to others. T F
21. I am very open to solutions to my problems from others. T F
22. I enjoy "showing up" people who think they are right. T F
23. I consider myself more competitive than cooperative. T F
24. I don't mind doing something for someone even when I don't know why I'm doing it. T F
25. I usually go along with others' advice. T F
26. I feel it is better to stand up for what I believe than to be silent. T F
27. I am very stubborn and set in my ways. T F
28. It is very important for me to get along well with the people I work with. T F

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4/30/98

Date

Measuring Psychological Reactance in a Group Setting

Title of Thesis

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4-30-98

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