

Summer 2005

## Exploration of State and Trait Anger, Anger Expression, and Perfectionism In Collegiate Springboard Divers

Jacob Stoner Sinclair

Follow this and additional works at: <https://digitalcommons.georgiasouthern.edu/etd>

---

### **Recommended Citation**

Sinclair, Jacob Stoner, "Exploration of State and Trait Anger, Anger Expression, and Perfectionism In Collegiate Springboard Divers" (2005). *Electronic Theses and Dissertations*. 90.

<https://digitalcommons.georgiasouthern.edu/etd/90>

This thesis (open access) is brought to you for free and open access by the Jack N. Averitt College of Graduate Studies at Georgia Southern Commons. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of Georgia Southern Commons. For more information, please contact [digitalcommons@georgiasouthern.edu](mailto:digitalcommons@georgiasouthern.edu).

AN EXPLORATION OF STATE AND TRAIT ANGER, ANGER EXPRESSION, AND  
PERFECTIONISM IN COLLEGIATE SPRINGBOARD DIVERS

by

JACOB STONER SINCLAIR

(Under the Direction of Daniel R. Czech)

ABSTRACT

The purpose of this study was to examine the relationships between the dimensions of perfectionism and various aspects of anger, such as state, trait, and the expression of anger, for collegiate springboard divers. The role of gender was also investigated. Forty women and 19 men were administered the State-Trait Anger Expression Inventory-2 (STAXI-2; Spielberger, 1999) and the Frost Multidimensional Perfectionism Scale (F-MPS; Frost, Marten, Lahart, & Rosenblate, 1990). Data analysis showed no significant differences between genders for any scales or subscales of anger or perfectionism. State anger and its subscales were not significantly correlated with any subscales of perfectionism. Anger expression scales were not found to be significantly correlated with the subscales of perfectionism. Only trait anger, and the subscale trait anger/ angry reaction, were found to have significant relationships with the concern over mistakes dimension of perfectionism. The perfectionism subscale personal standards was also correlated with trait anger/ angry reaction.

INDEX WORDS: Perfectionism, State Anger, Trait Anger, Anger Expression, Springboard Diving

AN EXPLORATION OF STATE AND TRAIT ANGER, ANGER EXPRESSION, AND  
PERFECTIONISM IN COLLEGIATE SPRINGBOARD DIVERS

by

JACOB STONER SINCLAIR

B.A., Southern Illinois University-Carbondale, 2003

B.S., Southern Illinois University-Carbondale, 2003

A Thesis Submitted to the Graduate Faculty of Georgia Southern University in Partial  
Fulfillment of the Requirements for the Degree

MASTER OF SCIENCE

STATESBORO, GEORGIA

2005

© 2005

Jacob Stoner Sinclair

All Rights Reserved

AN EXPLORATION OF STATE AND TRAIT ANGER, ANGER EXPRESSION, AND  
PERFECTIONISM IN COLLEGIATE SPRINGBOARD DIVERS

by

JACOB STONER SINCLAIR

Major Professor: Daniel R. Czech  
Committee: A. Barry Joyner  
Barry A. Munkasy

Electronic Version Approved:

July 2005

## DEDICATION

I dedicate this writing to my wife, Breanne Waiva, whose support and patience has been unmatched throughout my time at Georgia Southern University. The level of understanding you have exhibited as I spent more time at the pool, the library, or the office than with you during our first two years of marriage has been more appreciated than I can ever fully express. I am so grateful and lucky to have met and fallen in love with someone like you. I love you.

I also want to dedicate this to my parents, Scott and Debra. Your unwavering support throughout my entire education has been so gratefully appreciated. You have always believed in me and fostered my desire to succeed regardless of the arena in which it took place. Your hours of travel, your surprise packages in the mail, your “in case of an emergency” money, and your willingness to help at any time has always helped to ease my mind as I’ve gone from the punk teenager I was, to the person I am now. Thank you so much.

## ACKNOWLEDGEMENTS

Several individuals deserve thanks for all their help in completing this project. First of all, Dr. Czech, your willingness to step in as my chairperson and make the transition simple and enjoyable has helped to make the completion of this paper much easier and in a timelier fashion. Your endless optimism has been source of tremendous motivation, of which I was in great need. Thank you so much.

To Dr. Joyner, you are the best teacher I have ever had. You took a topic in which I have absolutely no interest, and made me look forward to every class. Your patience with my endless questions, and the way you explain everything to ensure that I walk away confident, has been greatly appreciated. Your encouragement on this paper has been so helpful throughout the entire process.

Dr. Munkasy, your attention to detail has helped make this paper an example of my absolute best work. Although they will not be missed, the challenges you have presented throughout this project have been appreciated. Thank you also, for stepping in and filling a role that was needed.

Finally, to my fellow sport psychers, the hours and hours spent in class, the late night office discussions, and the many, many fun times have helped to make these two years here at GSU as enjoyable as possible. Thank you for all your help and encouragement through this long, difficult, yet rewarding process, known as graduate school.

## TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS .....	6
LIST OF TABLES .....	9
LIST OF FIGURES .....	11
CHAPTER	
1 INTRODUCTION .....	15
Statement of Purpose .....	19
2 METHODS .....	20
Participants .....	20
Instrumentation .....	20
Procedures .....	22
3 RESULTS .....	24
4 DISCUSSION .....	26
REFERENCES .....	74
APPENDICES .....	77
A RESEARCH QUESTIONS, LIMITATIONS, DELIMITATIONS, ASSUMPTIONS, DEFINITION OF TERMS .....	78
B EXTENDED REVIEW OF LITERATURE .....	84
C INSTRUMENTATION .....	102
D COVER LETTER .....	110
E SURVEY ADMINISTRATION INSTRUCTIONS .....	113
F INFORMED CONSENT FORM .....	115



BIOGRAPHICAL SUMMARY .....118

## LIST OF TABLES

	Page
Table 1: Correlations for the F-MPS subscales Concern Over Mistakes (CM) and Personal Standards (PS) and the STAXI-2 scale State Anger (SANG) and subscales State Anger / Feeling Angry (SANGF), State Anger / Feel Like Expressing Anger Verbally (SANGV), and State Anger / Feel Like Expressing Anger Physically (SANGP).....	32
Table 2: Correlations for the F-MPS subscales Concern Over Mistakes (CM) Personal Standards (PS) and the STAXI-2 scale Trait Anger (TANG) and subscales Trait Anger / Angry Temperament (TANGT) and Trait Anger / Angry Reaction (TANGR) .....	33
Table 3: Correlations for the F-MPS subscales Concern Over Mistakes (CM) and Personal Standards (PS) and the STAXI-2 scales Anger Control-In (AC-I), Anger Control-Out (AC-O), Anger Expression-In (AX-I), and Anger Expression-Out (AX-O) .....	34
Table 4: Correlations for the F-MPS subscales Parental Criticism (PC), Parental Expectations (PE), Doubts About Actions (DA), and Organization (ORG) and the STAXI-2 scales State Anger (SANG), Trait Anger (TANG), and the Anger Expression Index (AX).....	35
Table 5: Results for independent t-tests for gender on the F-MPS subscales Concern Over Mistake (CM), Personal Standards (PS), Parental Expectations (PE), Parental Criticism (PC).....	36

Table 6: Results for independent t-tests for gender on the STAXI-2 scales State Anger (SANG), Anger Expression-In (AX-I), and Anger Expression-Out (AX-O) ...	37
Table 7: Results for independent t-test for gender on the STAXI-2 scale Trait Anger (TANG) .....	38
Table 8: Results for independent t-test for gender on the directional scales added to the F- MPS (PERDIRECT) and the STAXI-2 (ANGDIRECT) .....	39

## LIST OF FIGURES

	Page
Figure 1: Scatter plot graph for the correlation between Concern Over Mistake (CM) and State Anger (SANG) .....	40
Figure 2: Scatter plot graph for the correlation between Personal Standards (PS) and State Anger (SANG) .....	41
Figure 3: Scatter plot graph for the correlation between Concern Over Mistakes (CM) and State Anger / Feeling Angry (SANGF).....	42
Figure 4: Scatter plot graph for the correlation between Personal Standards (PS) and State Anger / Feeling Angry (SANGF).....	43
Figure 5: Scatter plot graph for the correlation between Concern Over Mistakes (CM) and State Anger / Feel Like Expressing Anger Verbally (SANGV) .....	44
Figure 6: Scatter plot graph for the correlation between Personal Standards (PS) and State Anger / Feel Like Expressing Anger Verbally (SANGV) .....	45
Figure 7: Scatter plot graph for the correlation between Concern Over Mistakes (CM) and State Anger / Feel Like Expressing Anger Physically (SANGP) .....	46
Figure 8: Scatter Plot graph for the correlation between Personal Standards (PS) and State Anger / Feel Like Expressing Anger Physically (SANGP) .....	47
Figure 9: Scatter plot graph for the correlation between Concern Over Mistakes (CM) and Trait Anger (TANG) .....	48
Figure 10: Scatter plot graph for the correlation between Personal Standards (PS) and Trait Anger (TANG) .....	49

Figure 11: Scatter plot graph for the correlations between Concern Over Mistakes (CM) and Trait Anger / Angry Temperament (TANGT).....	50
Figure 12: Scatter plot graph for the correlation between Concern Over Mistakes (CM) and Trait Anger / Angry Reaction (TANGR) .....	51
Figure 13: Scatter plot graph for the correlation between Personal Standards (PS) and Trait Anger / Angry Temperament (TANGT) .....	52
Figure 14: Scatter plot graph for the correlation between Personal Standards (PS) and Trait Anger / Angry Reaction (TANGR) .....	53
Figure 15: Scatter plot graph for the correlation between Concern Over Mistakes (CM) and Anger Control-In (ACI).....	54
Figure 16: Scatter plot graph for the correlation between Personal Standards (PS) and Anger Control-In (ACI).....	55
Figure 17: Scatter plot graph for the correlations between Concern Over Mistakes (CM) and Anger Control-Out (ACO).....	56
Figure 18: Scatter plot graph for the correlation between Personal Standards (PS) and Anger Control-Out (ACO) .....	57
Figure 19: Scatter plot graph for the correlation between Concern Over Mistakes (CM) and Anger Expression-In (AXI).....	58
Figure 20: Scatter plot graph for the correlation between Personal Standards (PS) and Anger Expression-In (AXI).....	59
Figure 21: Scatter plot graph for the correlation between Concern Over Mistakes (CM) and Anger Expression-Out (AXO).....	60

Figure 22: Scatter plot graph for the correlation between Personal Standards (PS) and Anger Expression-Out (AXO).....	61
Figure 23: Scatter plot graph for the correlation between Parental Criticism (PC) and State Anger (SANG) .....	62
Figure 24: Scatter plot graph for the correlation between Parental Criticism (PC) and Trait Anger (TANG) .....	63
Figure 25: Scatter plot graph for the correlation between Parental Criticism (PC) and the Anger Expression Index (AX).....	64
Figure 26: Scatter plot graph for the correlation between Parental Expectation (PE) and State Anger (SANG) .....	65
Figure 27: Scatter plot graph for the correlation between Parental Expectations (PE) and Trait Anger (TANG) .....	66
Figure 28: Scatter plot graph for the correlation between Parental Expectations (PE) and the Anger Expression Index (AX).....	67
Figure 29: Scatter plot graph for the correlation between Doubts About Actions (DA) and State Anger (SANG) .....	68
Figure 30: Scatter plot graph for the correlation between Doubts About Actions (DA) and Trait Anger (TANG) .....	69
Figure 31: Scatter plot graph for the correlation between Doubts About Actions (DA) and the Anger Expression Index (AX).....	70
Figure 32: Scatter plot graph for the correlation between Organization (ORG) and State Anger (SANG) .....	71

Figure 33: Scatter plot graph for the correlation between Organization (ORG) and Trait Anger (TANG) .....72

Figure 34: Scatter plot graph for the correlation between Organization (ORG) and the Anger Expression Index (AX) .....73

## CHAPTER 1

### INTRODUCTION

#### AN EXPLORATION OF STATE AND TRAIT ANGER, ANGER EXPRESSION, AND PERFECTIONISM IN COLLEGIATE SPRINGBOARD DIVERS

Many athletes strive to reach the highest levels of competition possible.

Competitors dream of the perfect game, performance, or skill execution required of sport. Much time is invested into practice, conditioning, and competition to provide athletes the best opportunity for a quality experience. With such emphasis placed on attaining so difficult a goal, resulting failures are to some extent inevitable. Individuals who exhibit qualities characteristic of the construct “perfectionism” may be significantly affected by these failures. How people experience and react to failure is directly associated with the level and type of perfectionism possessed. Those who demonstrate more adaptive perfectionistic reactions to failures are more likely to express positive, or success oriented, thoughts about sport. Those whose reactions align with maladaptive perfectionism likely will exhibit negative, or failure oriented, behaviors following failure in sport (Frost & Henderson, 1991; Hamachek, 1978).

The most common components present in the various definitions of perfectionism are the engagement of actions and behaviors that lead to the setting of exceptionally high standards for the purpose of being the best in a chosen endeavor. These actions are often accompanied by highly self-critical evaluations by the perfectionist (Burns, 1980; Frost, Marten, Lahart, & Rosenblate, 1990; Hill, Zrull, & Turlington, 1997; Lombardi, Florentino, & Lombardi, 1998).



Hamachek (1978) has characterized perfectionism as either normal (adaptive) or neurotic (maladaptive). According to him, adaptive perfectionists are those who set extremely high personal standards, are highly motivated to do their best on every task attempted, experience pleasure while working hard, and are able to recognize weaknesses which enable the individuals to perceive themselves as successful, even when those high standards are not met. In contrast, maladaptive perfectionists are characterized as those who set unrealistic and inflexible goals, are driven by an intense fear of failure, are extremely self-critical, and are unable to experience satisfaction from accomplishments.

To measure perfectionism, a number of scales have been constructed (Anshel & Eom, 2002; Burns, 1980; Garner, Olmstead, & Polivy, 1983; Randolph & Dykman, 1998), two of which have been used the most consistently: The Hewitt and Flett Multidimensional Perfectionism Scale (HF-MPS; Hewitt & Flett, 1991) and the Frost Multidimensional Perfectionism Scale (F-MPS; Frost, Marten, Lahart, & Rosenblate, 1990). The HF-MPS measures three dimensions of perfectionism: Self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism. The F-MPS examines an overall perfectionism score, and six independent dimensions of perfectionism: Concern over mistakes, personal standards, doubts about actions, parental expectations, parental criticism, and organization.

Perfectionists, maladaptive and adaptive, require that certain standards for themselves, others, and situations be met. When results are not perceived to be adequate by the perfectionist, an emotional response may be elicited. One such emotion is anger (Saboonchi & Lundh, 2003). Anger can be described as a state emotion, or as a trait personality characteristic. Spielberger, Jacobs, Russel, and Crane (1983) have

conceptualized state anger as the experience of negative feelings similar to being annoyed or irritated, or to a greater extent, filled with rage. During this experience, the autonomic nervous system can become aroused to different degrees depending on the situation.

Spielberger et al. describe trait anger as how frequently state anger is experienced.

An exploration of perfectionism and anger by Hewitt and Flett (1991) was one of the first to examine how these constructs may be related. Using data from 91 university students, the study concluded that self-oriented and socially prescribed perfectionism were correlated with anger, with socially prescribed perfectionism being more strongly related. These results were inconsistent with Saboonchi and Lundh (2003) who found that in a randomly selected sample of adult men and women with a mean age of 37 years, self-oriented perfectionism had a weak correlation with anger, but other-oriented and socially prescribed perfectionism had no significant relationship. This study concluded that anger in perfectionists was manifested more so because of high goals not being achieved, than by any perception regarding treatment by others. The age difference in the samples may have confounded these results, as evidenced by another study (Hewitt et al., 2002) using children which resulted in dissimilar conclusions. Unlike earlier research, this study found no correlation between self-oriented perfectionism and anger, but did indicate a relationship between socially prescribed perfectionism and aspects of anger. This type of perfectionism was shown to be positively correlated with outward expressions of anger and negatively correlated with actions indicative of anger suppression. This lack of a relationship between self-oriented perfectionism and anger may be explained by children not holding themselves as accountable for their actions as

an adult might, and instead, lashing out at others who are perceived to be placing unfair perfectionistic demands upon them.

The results of these studies, albeit somewhat inconclusive, do provide evidence that socially prescribed perfectionism may have a slightly stronger relationship with anger than with other dimensions of perfectionism. This interesting association has seemingly been unexplored within the realm of sport, despite consistent findings of perfectionism in athletes (Owens & Slade, 1987) and an association between poor performances precluded by high goal setting and anger (Fazackerley, Lane, & Mahoney, 2004).

Recently researchers began to examine perfectionism, anger, and sport collectively. Valance and Dunn (2002a), using their newly developed sport-specific version of the Frost Multidimensional Perfectionism Scale (Frost, Marten, Lahart, & Rosenblate, 1990), found that with adolescent ice hockey players, trait anger was highly correlated with the subscales concern over mistakes and perceived coach pressure. Perceived coach pressure, a subscale of the sport oriented version of the F-MPS, is similar to the parental expectations subscale of the F-MPS. The results of this study demonstrated a significant relationship between maladaptive perfectionism and trait anger. A follow up study examining state anger and perfectionism implemented a situation criticality variable. Youth ice hockey players were measured for perfectionism and state anger in two scenarios which had different degrees of criticality to the outcome of the competition. The results indicated that maladaptive perfectionists had higher state anger and experienced greater levels of anger following mistakes than adaptive perfectionists during competition, particularly during a critical time period. The study

also concluded that situation criticality, or the extent to which a situation within a competition is perceived as critical to the outcome, was positively correlated with emotional responses during competition (Vallance & Dunn, 2002b).

An aesthetic sport such as springboard diving has innate characteristics that focus on attaining perfectly executed performances. As a subjectively scored athletic event, there is a set “perfect” score, for which divers aim. It is plausible to believe that this standard may draw competitors in this sport towards perfectionistic thoughts and behaviors, which in turn may lead to situations conducive to experiencing greater levels of anger and anger expression. If an athlete who experiences anger consistently while engaged in sport can become more aware of how that anger may be stemming from maladaptive perfectionism, a greater understanding regarding the ensuing dysfunctional beliefs and actions may be attained. This may lead to a greater control over anger, more appropriate expressions of anger, and potentially, performances that are less affected by experiences of anger.

#### *Statement of Purpose*

The primary purpose of this study was to examine the relationships between the concern over mistakes and personal standards dimensions of perfectionism with the various scales and subscales of anger, as measured by the State-Trait Anger Expression Inventory-2 (STAXI-2; Spielberger, 1999). Secondary purposes were to: a) examine how the parental criticism and parental expectations subscales of perfectionism relate to state anger, trait anger, and anger expression, and b) to explore how gender relates to the perfectionism-anger relationships.

## CHAPTER 2

### METHODS

#### *Participants*

Fifty-nine springboard divers, 19 men and 40 women, from varsity collegiate teams throughout the United States participated in this study. The divers' ages ranged from 18-26 years, had competed the previous two years, and had a minimum of two years competitive experience. Competitive experience was operationally defined as a minimum of six United States Diving sanctioned meets or six NCAA Collegiate meets per year.

#### *Instrumentations*

The Frost Multidimensional Perfectionism Scale (Frost, Marten, Lahart, & Rosenblate, 1990) was used to assess the dimensions of perfectionism. This scale consists of 35 items that use a five-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). The scale measures overall perfectionism and six independent dimensions of perfectionism. The subscales are concern over mistakes (CM), personal standards (PS), parental expectations (PE), parental criticism (PC), doubts about actions (DA), and organization (ORG). The CM subscale measures the extent to which an individual reacts negatively to one's own mistakes. PS measures the extent to which a person sets high standards. The PE subscales indicates the strength of an individual's perceptions regarding his or her parents' setting of high standards for the individual. PC is a measure of how a person perceives criticism from his or her parents regarding their performances. The subscales DA and ORG measure how satisfied or dissatisfied an individual is with a performance or project, and how important order and neatness is to an individual, respectively. For greater interpretation of the scores, a directional scale was

added by the primary investigator of this study. This seven-point Likert scale measures how an individual feels perfectionism affects his or her performance. Overall internal reliability for F-MPS has been reported at .90 (Parker & Adkins, 1995) and has been concurrently validated by Frost et al. with the HF-MPS (Hewitt & Flett, 1991) and the Burns Perfectionism Scale (Burns, 1980). Frost et al. also demonstrated a Cronbach's alpha of .91 for this scale.

The State Trait Anger Expression Inventory-2 (Spielberger, 1999) was used to measure trait anger, state anger, and anger expression. The STAXI-2 is a 57-item scale which uses four-point Likert scales. The first part of the STAXI-2 is the state anger (SANG) scale. It consists of fifteen items measuring how intensely an individual experiences anger during either the testing period, or a time or situation specified by the test administrator. For this study, the individuals were directed to indicate how he or she generally feels during a competition or practice. The Likert scale for the state anger scale ranges from 1 (Not at all) to 4 (Very much so). The state anger scale consists of three subscales: state anger / feeling angry (SANGF), state anger / feel like expressing anger verbally (SANGV), and state anger / feel like expressing anger physically (SANGP). The second part of the STAXI-2 is the trait anger (TANG) scale. This scale consists of ten items measuring an individual's proneness to experience angry feelings. The Likert scale for this measure ranges from 1 (Almost never) to 4 (Almost always). Two subscales are used to comprise the TANG scale: Trait anger / angry temperament (TANGT) and trait anger / angry reaction (TANGR). The final part of this inventory measures the ways in which an individual expresses and controls anger. These scales consist of 32 items using the same Likert scale as the TANG scale. The following scales make up this final part of

the STAXI-2: The anger expression-out (AX-O) scale, the anger expression-in (AX-I) scale, the anger control-out (AC-O) scale, the anger control-in (AC-I) scale, and the anger expression index (AX). Like the F-MPS, an additional seven-point Likert directional scale was added to measure how an individual feels anger positively or negatively affects performance. The three primary components of the STAXI-2 have been concurrently validated by Spielberger with various subscales of the Buss-Durkee Hostility Inventory (Buss & Durkee, 1957), Minnesota Multiphasic Personality Inventory (Hathaway & McKinley, 1967), Spielberger's (1979) State-Trait Personality Inventory (as cited in Spielberger, 1999) and the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975).

### *Procedures*

A packet containing a cover letter, the Frost Multidimensional Perfectionism Scale, the State-Trait Anger Expression Inventory-2, informed consent forms, directions for the administration of the surveys, and a self-addressed stamped envelope, was sent to university teams. The letter included a rationale for the study and the possible benefits to springboard diving, in addition to information on the length of time necessary to complete the scales. A requested return date was also noted in the cover letter. The informed consent form addressed issues regarding an assurance of confidentiality and anonymity. The information in the packet was to be read by those administering the scales. See appendices D, E, and F.

The diving programs were contacted by either phone or email prior to receiving the surveys. The scales were administered primarily in the practice facilities for each team. Data were also collected at a diving competition from those individuals who met

the prerequisites. In this case, the packets were distributed at a pre-competition meeting and were to be returned as soon as possible. Most were returned by mail several weeks later.

A reminder email was sent two weeks prior to the return date. Packets were mailed a second time to those programs who had requested an additional packet. Collection ceased soon after the deadline had passed.



## CHAPTER 3

### RESULTS

Multiple Pearson's Correlation analyses were conducted to examine the relationships between: a) the F-MPS subscales CM and PS with all scales and subscales of the STAXI-2, and b) the F-MPS subscales PE, PE, DA, and ORG with the STAXI-2 scales SANG, TANG, and the AX Index. Because there were 35 correlations examined and 10 independent t-tests analyzed, the alpha level was adjusted to  $p < .01$ .

The subscale CM resulted in two significant correlations. TANG showed a weak, positive relationship ( $r = .374$ ,  $r^2 = .140$ ,  $p < .01$ ), while TANGR ( $r = .490$ ,  $r^2 = .240$ ,  $p < .01$ ) demonstrated a moderate, positive relationship. No other scales or subscales of the STAXI-2 were found to be significantly correlated with CM, and only one other scale approached significance; AX-I ( $r = .310$ ,  $r^2 = .096$ ,  $p = .019$ ). Results for all correlations for CM are shown in Tables 1, 2, and 3, and demonstrated graphically in Figures 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, and 21.

For the F-MPS subscale PS and the STAXI-2 scales and subscales, only one significant correlation surfaced. TANGR was found to have a weak, positive relationship with PS ( $r = .408$ ,  $r^2 = .166$ ,  $p < .01$ ). Two other STAXI-2 scales approached significance: TANG ( $r = .307$ ,  $r^2 = .094$ ,  $p = .019$ ) and AC-I ( $r = .310$ ,  $r^2 = .096$ ,  $p = .018$ ). The correlations for PS are shown in Tables 1, 2, and 3, and demonstrated graphically in Figures 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, and 22.

For all other correlations examined, only one was found to be significant at the alpha level of  $p < .01$ . PE was found to have a weak, positive relationship with TANG

( $r = .397$ ,  $r^2 = .158$ ,  $p < .01$ ) as shown in Table 4. All correlations other than those with CM and PS examined are in graphical form in Figures 23-34.

To examine the differences between genders for the F-MPS subscales CM, PS, PE and PC, four two-tailed independent t-tests were utilized. These independent t-tests, along with all others used in this study, had an alpha level adjusted to  $p < .01$ . Results show no significant differences between men and women for the above constructs. See Table 5.

Three one-tailed independent t-tests revealed no significant differences between genders on SANG, AX-I, and AX-O. See Table 6.

For the STAXI-2 scale TANG, a two-tailed independent t-test again resulted in no significant differences between genders. See Table 7.

The directional scales added to the F-MPS and the STAXI-2 surveys also resulted in no significant differences between genders. See Table 8.

To examine the differences between the correlations specified in the hypotheses, a Fisher's  $z_r$  transformation was utilized. However, only a single transformation contained at least one significant correlation, thus essentially nullifying any significant results for all others, of which there were none. The one Fisher's  $z_r$  transformation that did contain a significant relationship, CM and PS for TANG, also resulted in a non-significant difference between correlations.

## CHAPTER 4

### DISCUSSION

The data analysis on the relationship between the perfectionism subscales and SANG resulted in unexpected outcomes. Individuals who score highly on the CM subscale have an increased focus on errors (Frost, Marten, Lahart, & Rosenblate, 1990) and have a greater desire to self-present positively to others (Hamachek, 1978). Because athletes fitting this criterion are less able to remove negative athletic related images from his or her mind (Frost & Henderson, 1991) it was hypothesized that SANG would be positively correlated with CM. Additionally, Hewitt and Flett (1991) found a correlation between socially prescribed perfectionism and a measure of anger, which although not specified, appeared to be more closely related to state anger. Socially prescribed perfectionism has been found to be significantly correlated with CM (Frost, Heimberg, Hold, Mattia, & Neubauer, 1993) but unexpectedly, CM was not found to have a significant relationship with SANG for the current study despite its correlation with AX-I approaching significance ( $r = .310$ ,  $r^2 = .094$ ,  $p = .019$ ). This may lead to the conclusion that those who score highly on CM may experience angry feelings, but perhaps not during diving practice or competition, as only the SANG scale of the STAXI-2 (Speilberger, 1999) inquires about emotions coinciding with the diving experience.

Examining the subscales of SANG, and the relationships present with the CM and PS subscales of perfectionism, resulted in additional counter-intuitive findings. Vallance and Dunn (2002b) found that maladaptive perfectionists, or those who's CM score was high, had significant correlations with SANGF and SANGV. The current study's hypothesis proved to be incorrect, in that CM did not have a significantly stronger

correlation with these subscales than did PS. In fact, PS had a stronger correlation with SANGF, although none of these correlations were significant at  $p < .01$ .

The final SANG subscale, SANGP, also resulted in relationships with PS and CM that were not significant. It was presumed that participating in a sport in which the participant is under water and out of view immediately following a performance, in addition to having the opportunity to leave the immediate vicinity of the competitive venue during a competition or practice, would increase the incidence of a diver's desire to express anger in a physical manner. Examples of these expressions might be hitting walls under water, clenching fists or other muscles, or slamming lockers. However, this proved not to be the case, and may be due to the fact that two of the five items of the STAXI-2 (Spielberger, 1999) which measure SANGP describe acting violent toward "somebody." The participants of this study may have interpreted "somebody" as someone else in the practice or competition setting. In springboard diving, this is not socially acceptable, as it may be in a few other sports, and would potentially result in greater negative consequences.

TANG, and its subscale TANGR, were found to have the greatest number of significant correlations. TANGR was significantly correlated with both CM and PS, with CM having a stronger relationship. These results were not unexpected as it follows logic that those who are most concerned with how they appear to others naturally might experience greater levels of anger in frustrating situations, or following a negative evaluation. However, it was unexpected that CM had a significant relationship with TANG, but PS did not. Hewitt and Flett's (1991) self-oriented dimension of perfectionism, which is significantly correlated with PS, has been found to be positively

correlated with TANG, but socially prescribed perfectionism, which correlates with CM, was not (Saboonchi & Lundh, 2003). Because of these previous findings, it was believed that PS would have a stronger relationship with TANG than CM. However, results of this study showed the opposite. These findings demonstrate some support the premise that springboard divers who are more concerned about mistakes and how a performance is evaluated may experience a greater frequency of angry emotions than those who are more concerned with eclipsing self-imposed standards.

The perfectionism subscales examining perceptions of parents also resulted in interesting findings. TANG was found to be significantly correlated with PE, however PC was not. It appears that within the springboard diving community, anger may be experienced in greater frequency by those who perceive parents as having extremely high standards imposed on him or her, than by those who perceive parents as overly critical for not meeting certain standards. Perhaps this is due to other emotions being elicited by those with overly critical parents, such as sadness, apathy, or resignation. More research is needed in this area for a greater understanding of this dynamic.

Examining gender in the context of perfectionism, anger, and springboard diving also brought about interesting findings. Based on previous literature (Anshel, & Eom, 2002; Flett, Hewitt, Endler, & Tassone, 1995; Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Gotwals, Dunn, & Wayment, 2003; Saboonchi, & Lundh, 2003) it was believed that perfectionism would not be significantly different between genders. The results of this study supported conclusions drawn in earlier research regarding the similarities between how men and women experience perfectionism. What was surprising were the differences between genders for the various scales and subscales of anger.

Results for TANG and gender were consistent with the findings of Spielberger's (1999) investigation. There were no significant differences between gender and the two subscales of TANG. This was also true for SANG and its subscales, despite Spielberger's findings demonstrating significantly higher scores for men than women on each construct. In addition to Spielberger (1999), Forgays, Forgays, and Speilberger (1997) revealed results supporting the belief that men and women experience anger differently.

One possible explanation for the incongruence of SANG scores between the current study and those cited above is that for Spielberger's (1999) study, survey items were to address the participant's state at the time of the test administration in a controlled setting. The participants used in this study were asked to recall and indicate how he or she generally felt during a competition or practice. It is possible that while diving, similar state anger emotions may be elicited between genders, regardless of how state anger is experienced in a more controlled setting.

With regard to anger expression, it was hypothesized that women would score significantly higher on the AX-I scale, and men would score significantly higher on the AX-O scale. Results showed neither to be supported, with women actually scoring slightly higher on AX-O. It is less surprising that AX-I scores were not significantly different, as Spielberger (1999) had similar results. However, the assumption in this case was based on previous findings that women experience shame with greater frequency, and that shame is positively correlated with AX-I (Lutwak, Panish, Ferrari, & Rassino, 2001). It was thought that being an elite athlete on display in an individual sport such as diving, may have lead to increased instances of shame if the athlete were to perform poorly. If this were the case, women may experience shame with greater frequency than

men, thus leading to a greater propensity for experiencing and suppressing anger, as measured by the AX-I scale. It appears, though, that participating in springboard diving is not sufficient enough to alter the extent to which men and women typically experience and suppress angry feelings.

Interestingly, women did score higher on AX-O, although not significantly. These results refute the findings of Spielberger (1999) that men scored significantly higher than women on this scale, and are even more noteworthy when juxtaposed with Forgays, Forgays, and Spielberger's (1997) conclusion that the outward expression of anger is a more distinctive and significant event for women than men. It is possible that the lack of significant differences within this sample may be due to the disparity in the number of men and women participants, but greater research is needed regarding the uniqueness of the similarities between genders for these typically asymmetric constructs.

Overall, findings in this study produced unexpected results. The similarities between genders prompts the need for future research on how springboard divers differ with samples derived from other sport populations. The relatively small number of participants and the difference in the number of men and women who participated may have affected these findings. Having only 59 participants may have decreased the power for the correlations and independent t-tests to such an extent, that few correlations and independent t-tests resulted in significance. Despite this possibility, it may be that there is an aspect of springboard diving that either draws in a certain type of individual to participate, or fosters similar personality characteristics through participation.

The lack of variability in this sample decreases the ability of the results of study to be generalizable to individuals who participate in other sports. Because of this,

differences between team and individual sports should be examined in future studies.

There appears to be a very small amount of research examining perfectionism and anger in an athletic setting and comparisons between team and individual sport participants has not been a focus. With social evaluation and individualized standards, cornerstones of the dimensions of perfectionism, varying greatly between team and individual sports, anger and perfectionism may prove to be experienced very differently through participation in diverse settings. More research of this kind may lead to a greater understanding of how the perfectionism-anger dynamic is uniquely experienced in springboard diving.

Although not specifically scrutinized in the current study, there did appear to be differences in scores between the normal population and springboard divers. Greater research is needed comparing the relationships of anger and perfectionism between these groups. Understanding how these populations differ on these constructs may shed light on the presence of conditions that lead to the formation of relationships between the various dimensions observed in this study.

Finally, research that has a deeper focus on the trait anger-perfectionism dynamic is needed. This study found the strongest and greatest number of correlations between these dimensions, and understanding why this is the case could prove to be useful. Perfectionism is also a trait characteristic and examining the development of these qualities, and the ties between them, could lead to greater insight into how they may be fostered or discouraged.



Table 1

Correlations for the F-MPS subscales Concern Over Mistake (CM) and Personal Standards (PS) and the STAXI-2 scale State Anger (SANG) and subscales State Anger / Feeling Angry (SANGF), State Anger / Feel Like Expressing Anger Verbally (SANGV), and State Anger / Feel Like Expressing Anger Physically (SANGP)

---

	SANG	SANGF	SANGV	SANGP
CM	.189	.139	.217	.120
PS	.209	.202	.160	.210

---

Table 2

Correlations for the F-MPS subscales Concern Over Mistake (CM) and Personal Standards (PS) and the STAXI-2 scale Trait Anger (TANG) and subscales Trait Anger / Angry Temperament (TANGT) and Trait Anger / Angry Reaction (TANGR)

---

	TANG	TANGT	TANGR
CM	.374**	.187	.490**
PS	.307*	.123	.408**

---

\*\*Correlation is significant at the .01 level (two-tailed)

\*Correlation is significant at the .05 level (two-tailed)

Table 3

Correlations for the F-MPS subscales Concern Over Mistakes (CM) and Personal Standards (PS) and the STAXI-2 scales Anger Control-In (AC-I), Anger Control-Out (AC-O), Anger Expression-In (AX-I), and Anger Expression-Out (AX-O)

---

	AC-I	AC-O	AX-I	AX-O
CM	-.092	-.177	.310*	.135
PS	.310*	.113	.234	.136

---

\*Correlation is significant at the .05 level (two-tailed)

Table 4

Correlations for the F-MPS subscales Parental Criticism (PC), Parental Expectations (PE), Doubts About Actions (DA), and Organization (ORG) and the STAXI-2 scales State Anger (SANG), Trait Anger (TANG), and the Anger Expression Index (AX)

---

	PC	PE	DA	ORG
SANG	.178	.159	.035	-.078
TANG	.274*	.397**	.165	.031
AX	.179	.176	.030	-.054

---

\*\*Correlation is significant at the .01 level (two-tailed)

\*Correlation is significant at the .05 level (two-tailed)

Table 5

Results for independent t-tests for gender on the F-MPS subscales Concern Over Mistakes (CM), Personal Standards (PS), Parental Expectations (PE), and Parental Criticism (PC)

---

Subscale	Gender (Number)	Mean	Standard Deviation	Sig.(2-tailed)
CM	Men (19)	24.79	9.07	.483
	Women (40)	23.33	6.57	
PS	Men (19)	26.68	5.57	.260
	Women (40)	25.03	5.07	
PE	Men (19)	13.79	4.38	.455
	Women (40)	14.65	3.98	
PC	Men (19)	6.95	3.92	.188
	Women (40)	8.20	3.09	

---

Table 6

Results for independent t-tests for gender on the STAXI-2 scales State Anger (SANG), Anger Expression-In (AX-I), and Anger Expression-Out (AX-O)

---

Scale	Gender (Number)	Mean	Standard Deviation	Sig. (1-tailed)
SANG	Men (19)	26.89	8.77	.286
	Women (40)	24.40	8.10	
AX-I	Men (19)	17.89	4.56	.554
	Women (40)	17.26	3.44	
AX-O	Men (19)	14.42	3.66	.900
	Women (40)	14.56	4.22	

---

Table 7

Results for independent t-test for gender on the STAXI-2 scale Trait Anger (TANG)

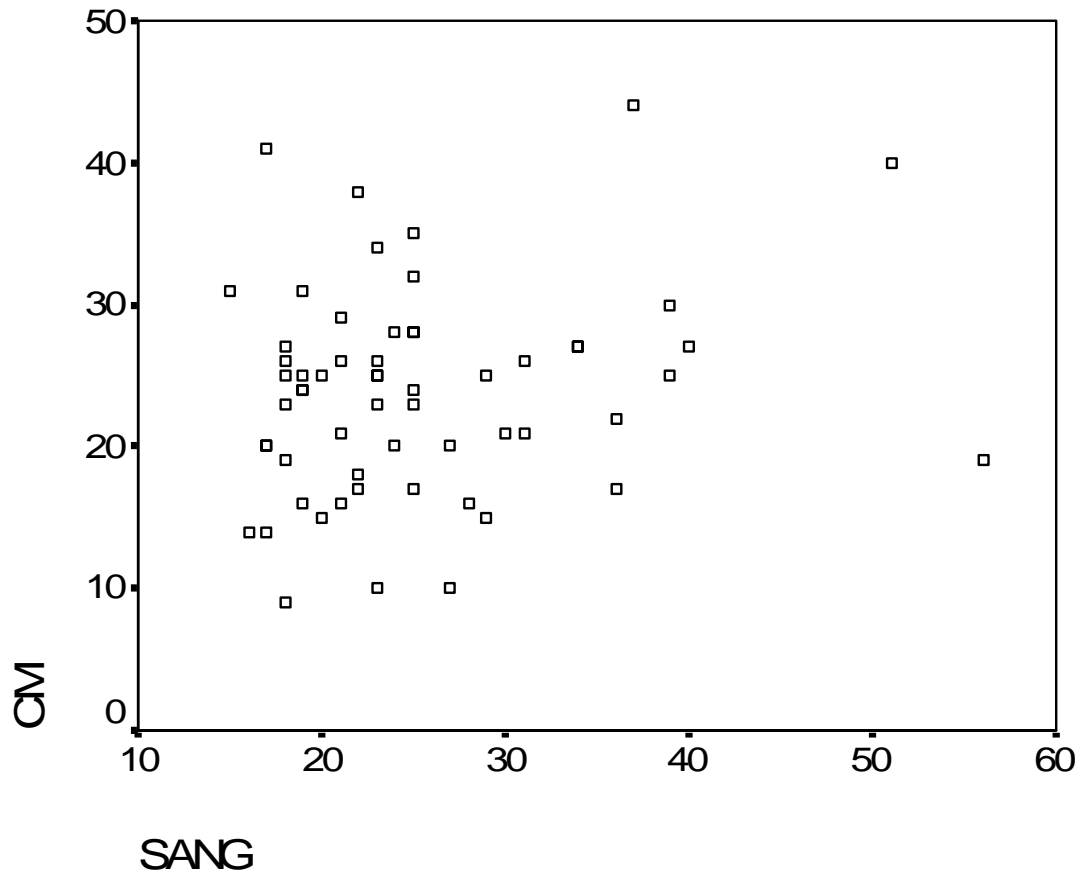
Scale	Gender (Number)	Mean	Standard Deviation	Sig. (2-tailed)
TANG	Men (18)	17.28	4.74	.983
	Women (40)	17.25	4.67	

Table 8

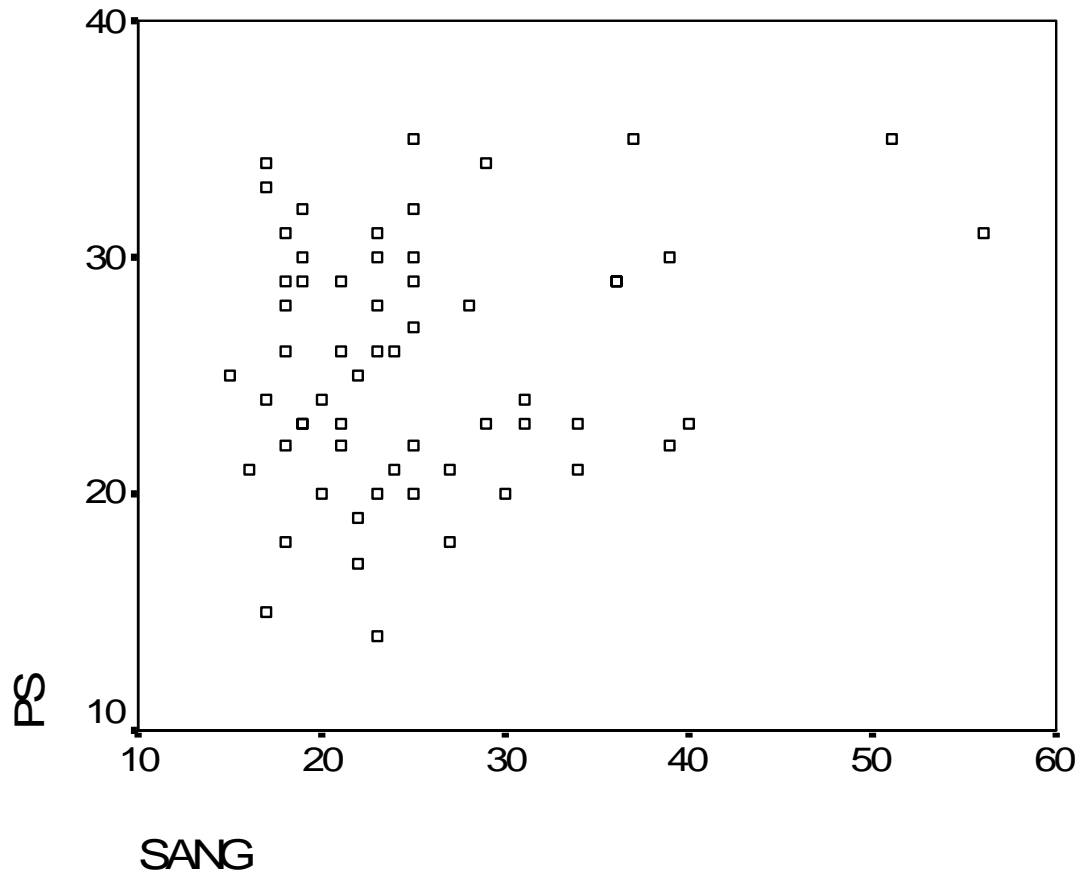
Results for independent t-tests for gender on the directional scales added to the F-MPS (PERDIRECT) and the STAXI-2 (ANGDIRECT)

Scale	Gender (Number)	Mean	Standard Deviation	Sig. (2-tailed)
PERDIRECT	Men (18)	1.33	1.33	.223
	Women (38)	.76	1.73	
ANGDIRECT	Men (18)	-.28	1.02	.339
	Women (39)	-.62	1.31	

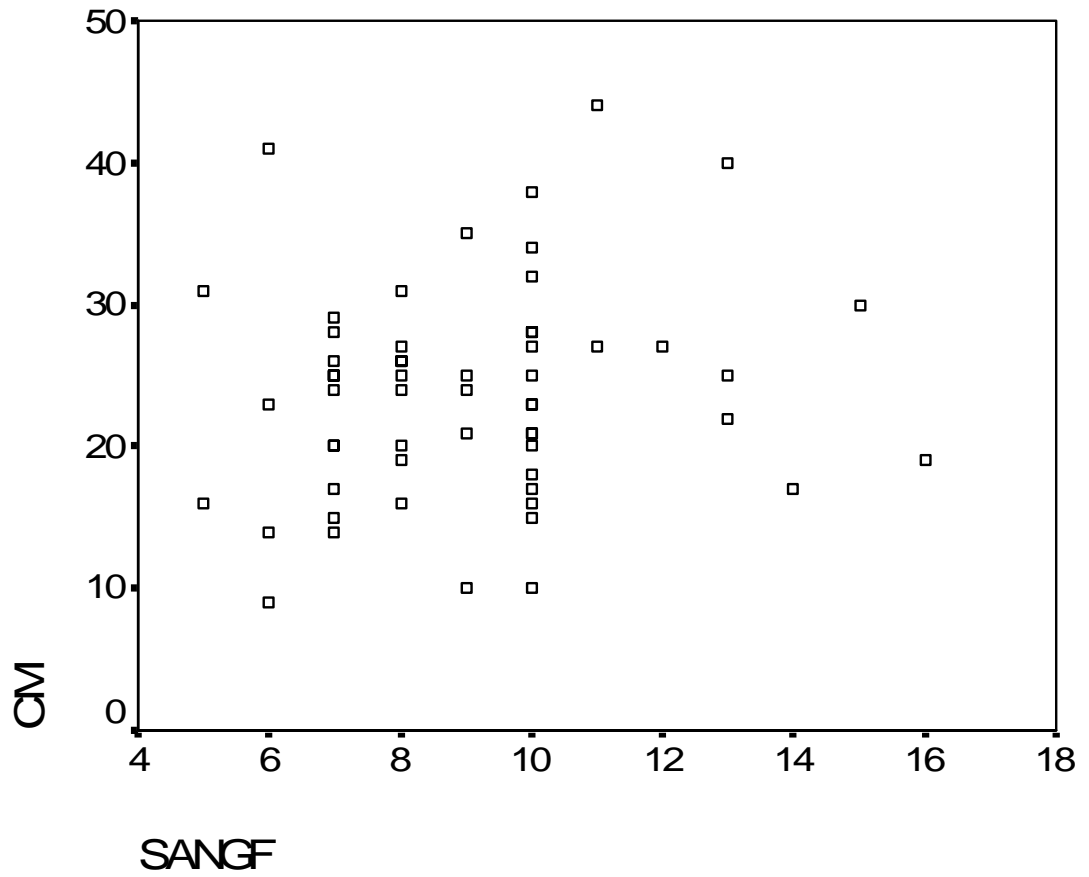




*Figure 1.* Scatter plot graph for the correlation between Concern Over Mistakes (CM) and State Anger (SANG).



*Figure 2.* Scatter plot graph for the correlation between Personal Standards (PS) and State Anger (SANG).



*Figure 3.* Scatter plot graph for the correlation between Concern Over Mistakes (CM) and State Anger / Feeling Angry (SANGF).

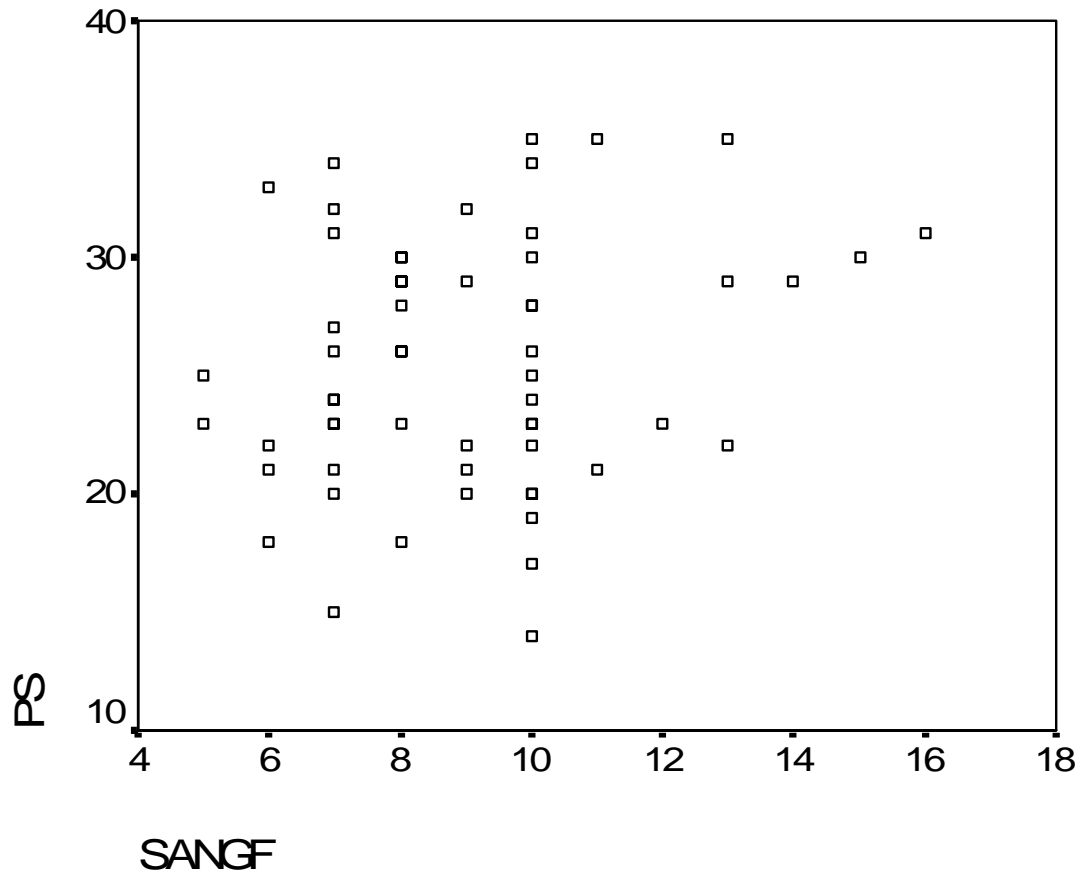


Figure 4. Scatter plot graph for the correlation between Personal Standards (PS) and State Anger / Feeling Angry (SANGF).

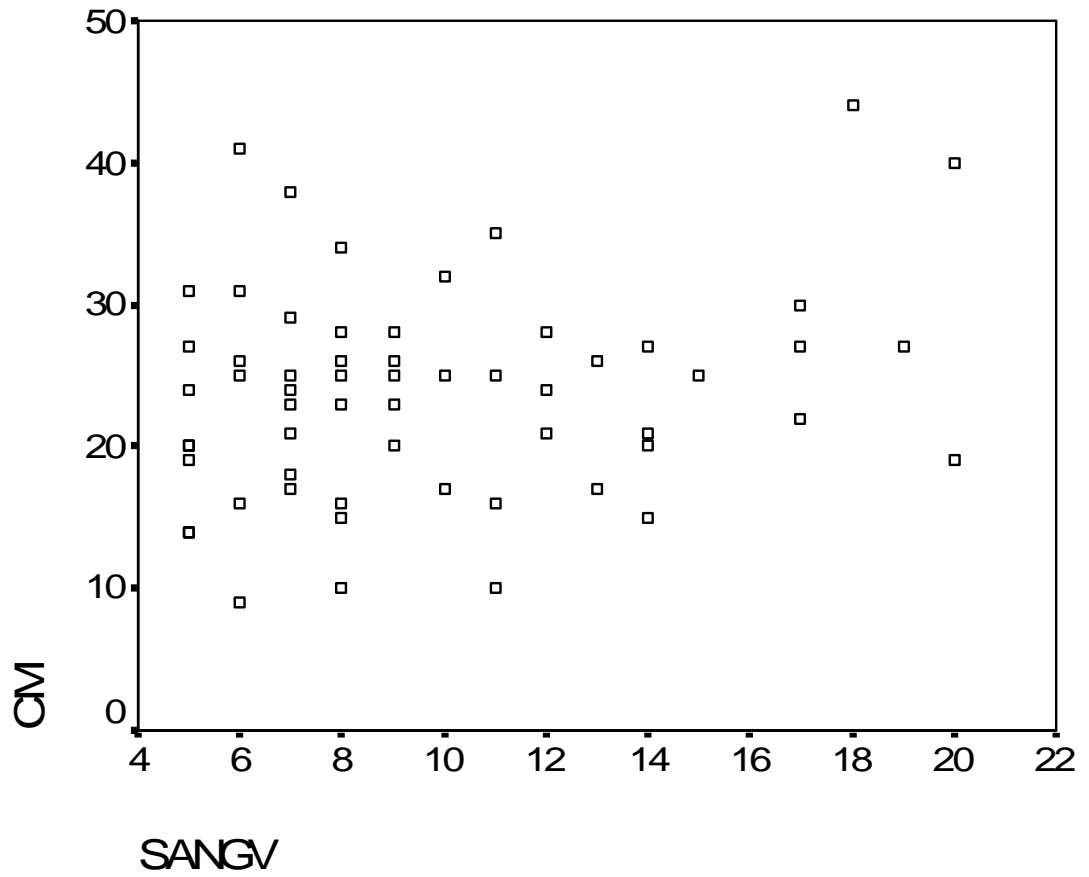


Figure 5. Scatter plot graph for the correlation between Concern Over Mistakes (CM) and State Anger / Feel Like Expressing Anger Verbally (SANGV).

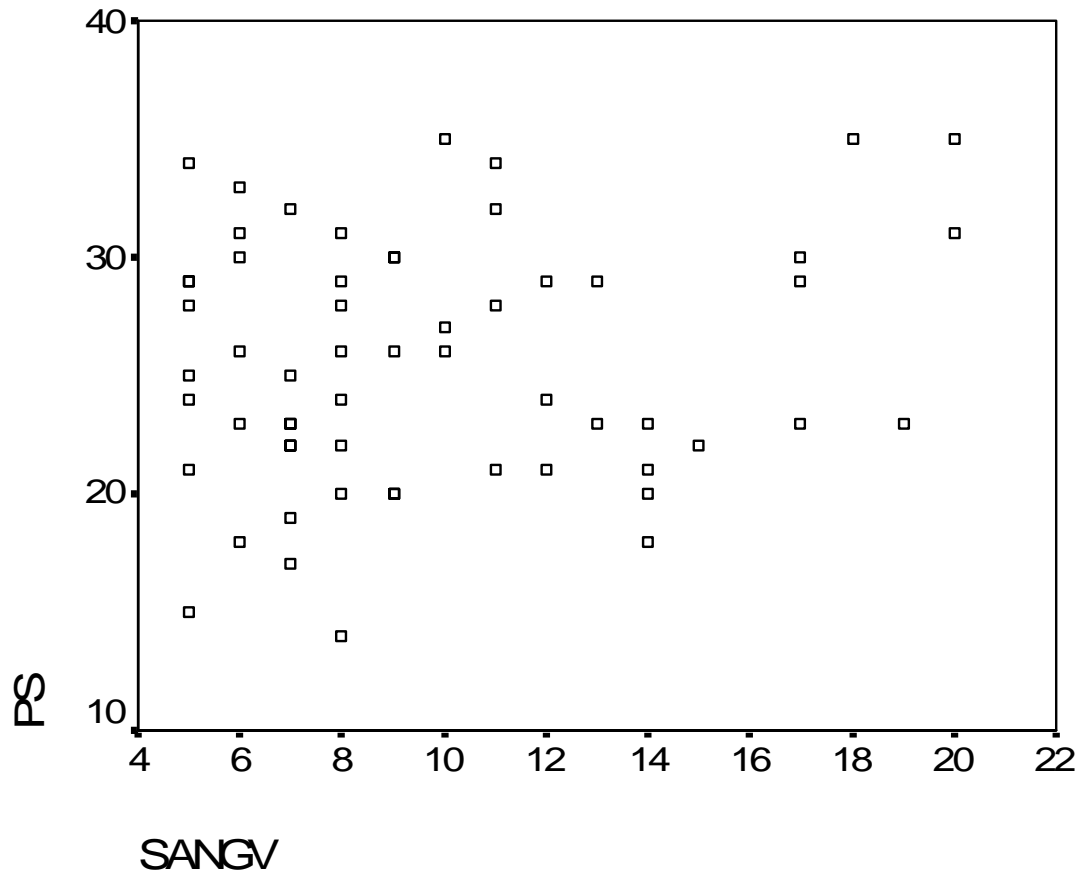


Figure 6. Scatter plot graph for the correlation between Personal Standards (PS) and State Anger / Feel Like Expressing Anger Verbally (SANGV).

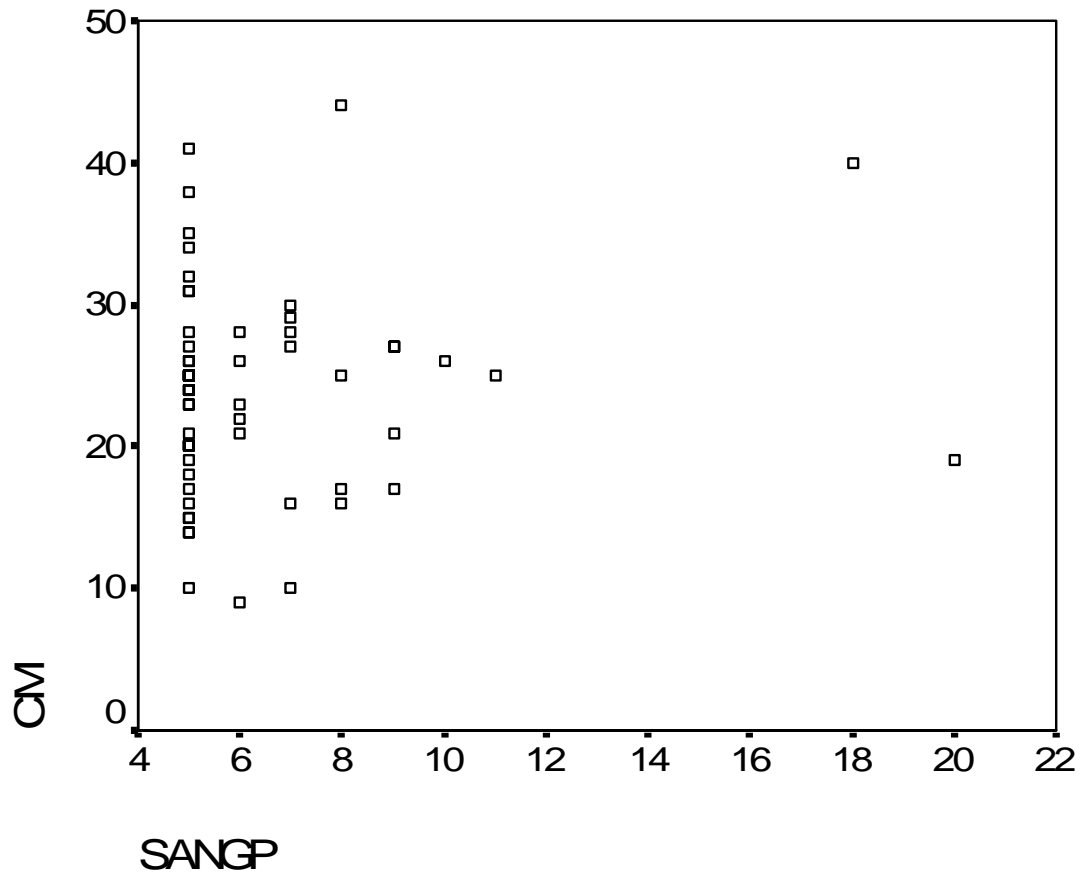


Figure 7. Scatter plot graph for the correlation between Concern Over Mistakes (CM) and State Anger / Feel Like Expressing Anger Physically (SANGP).

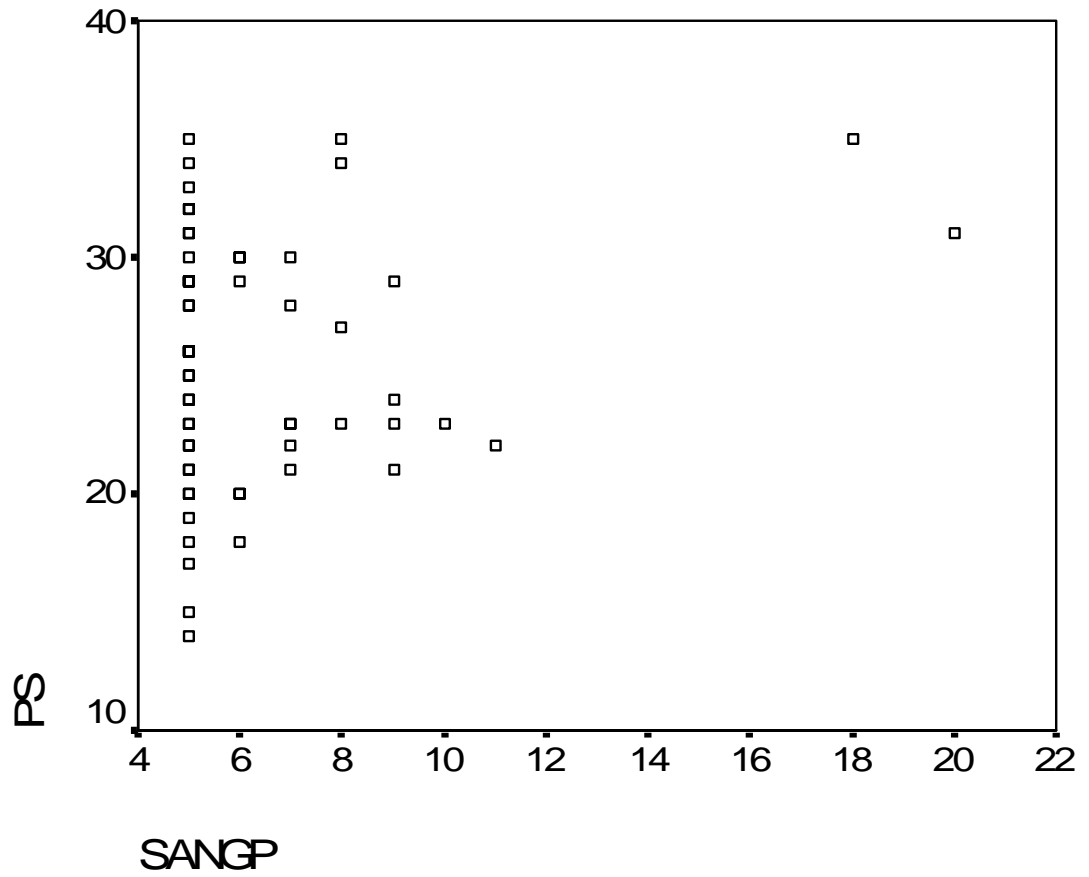


Figure 8. Scatter plot graph for the correlation between Personal Standards (PS) and State Anger / Feel Like Expressing Anger Physically (SANGP).



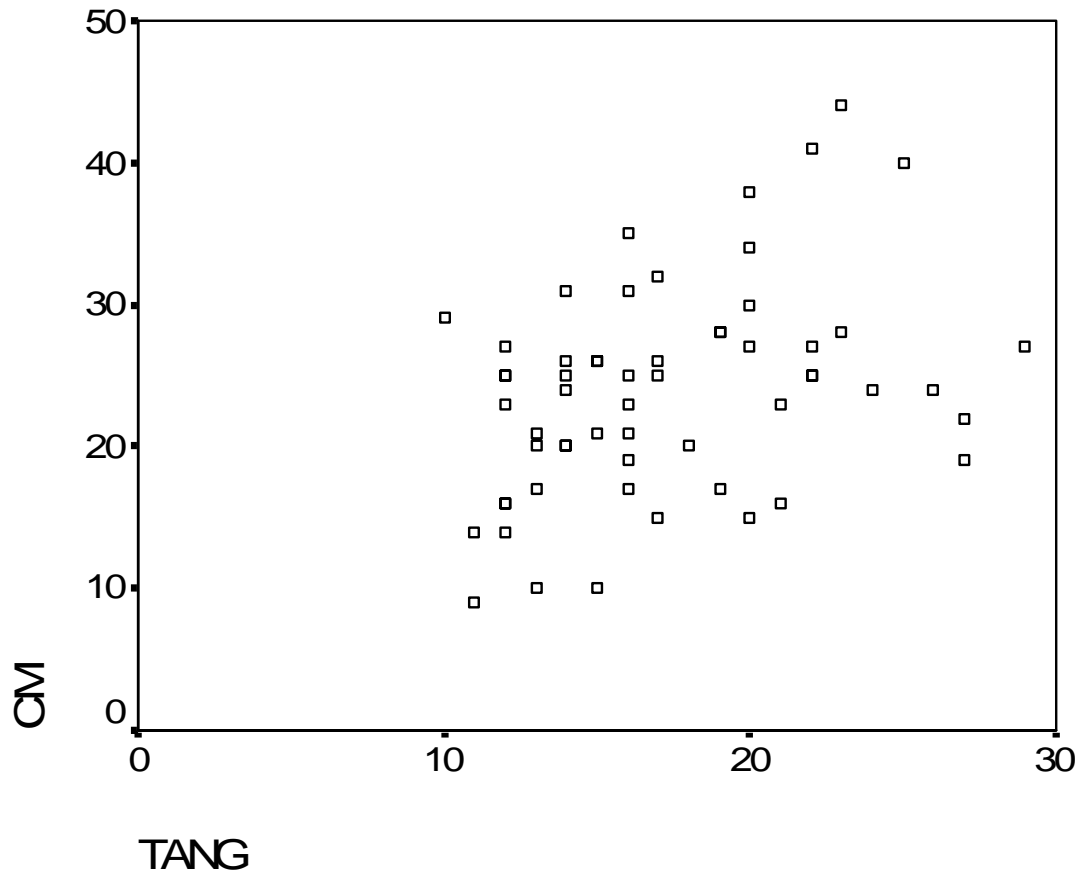
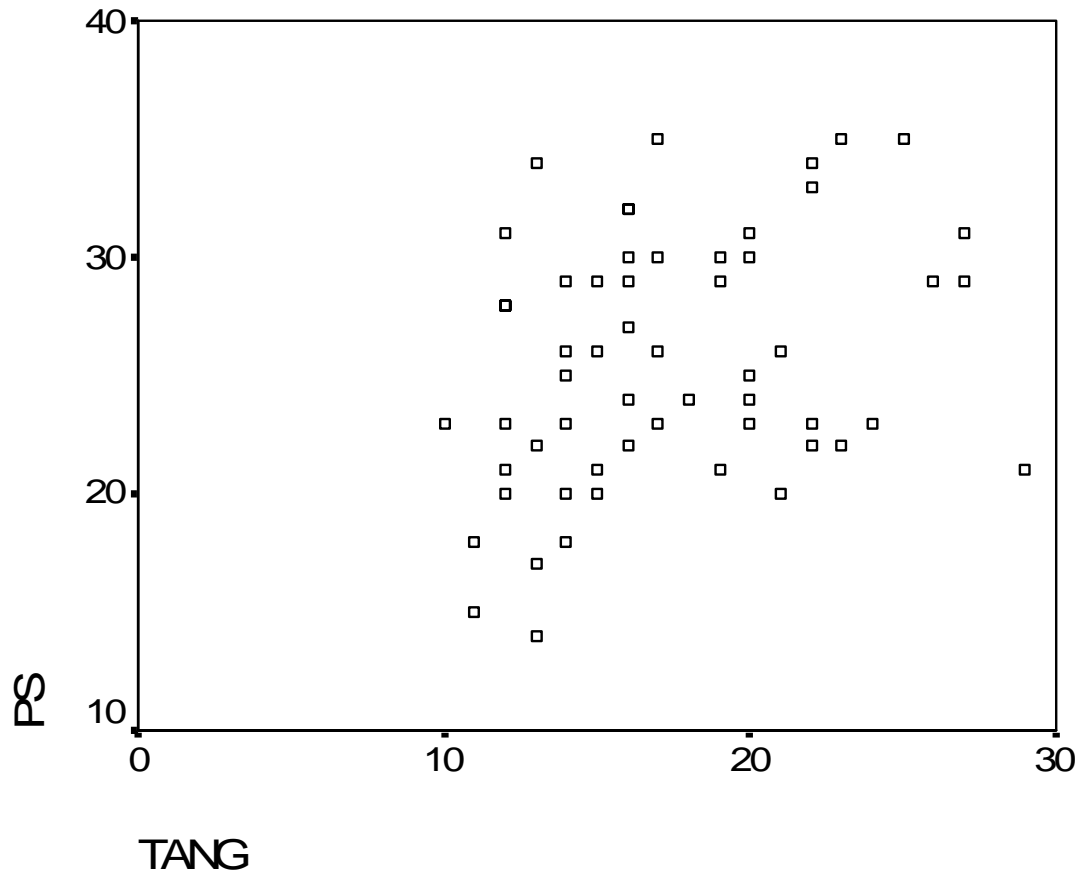
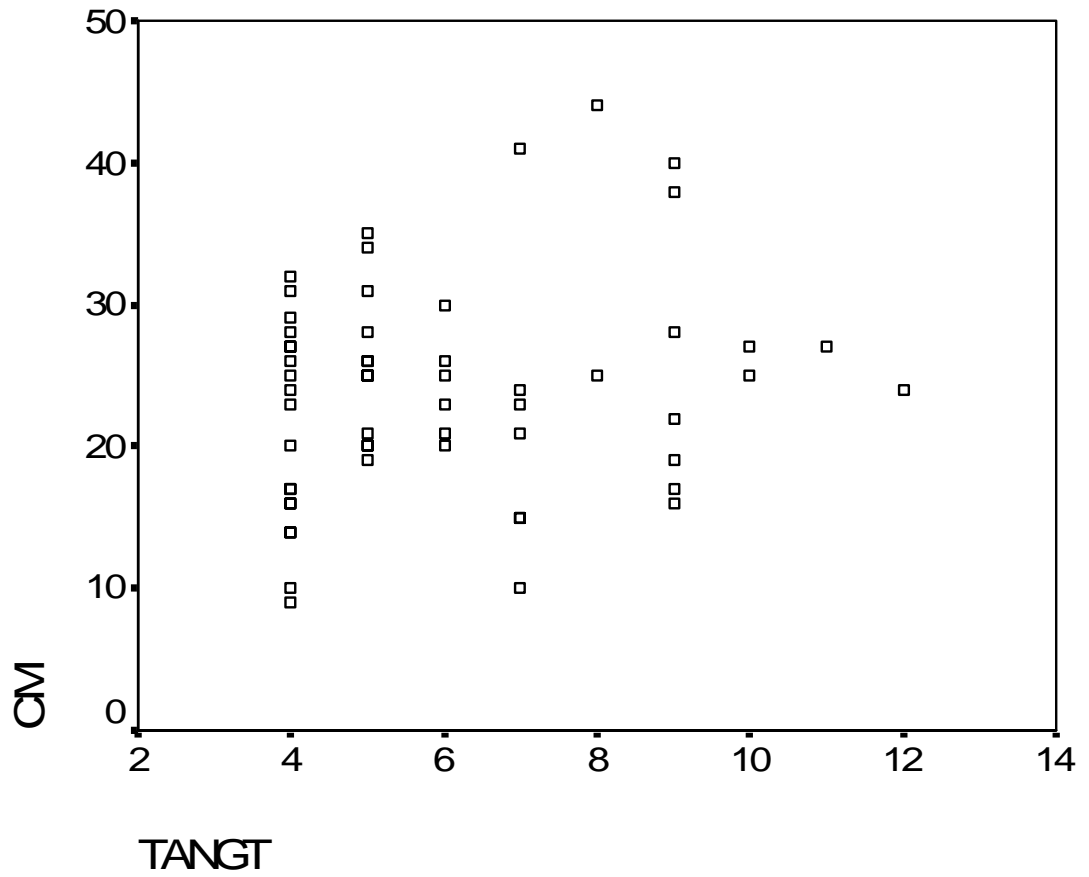


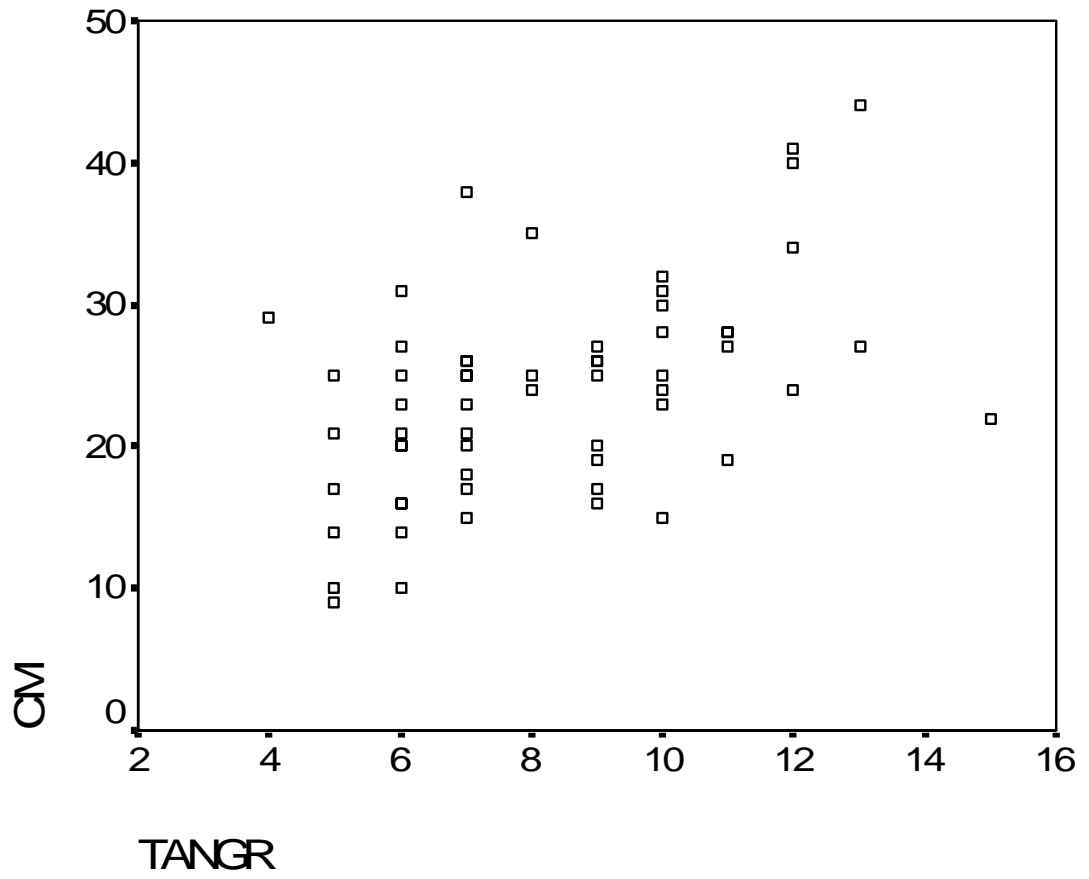
Figure 9. Scatter plot graph for the correlation between Concern Over Mistakes (CM) and Trait Anger (TANG).



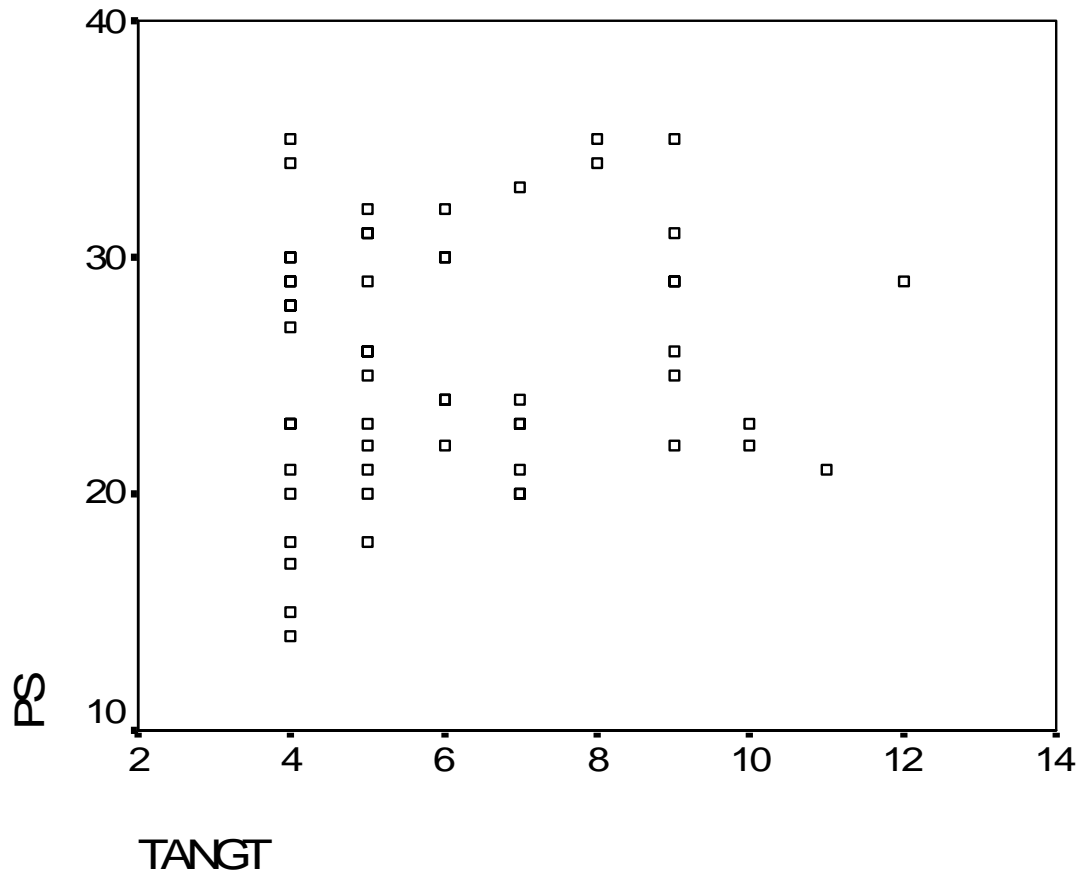
*Figure 10.* Scatter plot graph for the correlation between Personal Standards (PS) and Trait Anger (TANG).



*Figure 11.* Scatter plot graph for the correlation between Concern Over Mistakes (CM) and Trait Anger / Angry Temperament (TANGT).



*Figure 12.* Scatter plot graph for the correlation between Concern Over Mistakes (CM) and Trait Anger / Angry Reaction (TANGR).



*Figure 13.* Scatter plot graph for the correlation between Personal Standards (PS) and Trait Anger / Angry Temperament (TANGT).

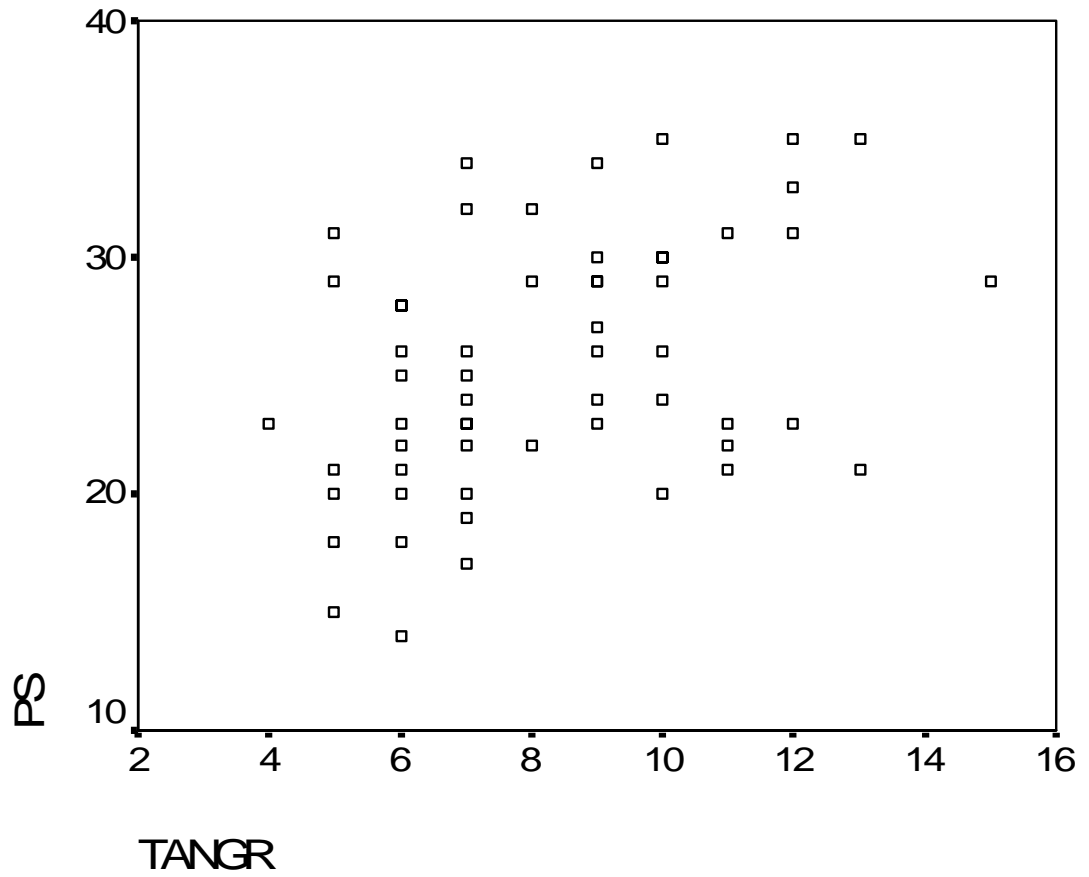


Figure 14. Scatter plot graph for the correlation between Personal Standards (PS) and Trait Anger / Angry Reaction (TANGR).

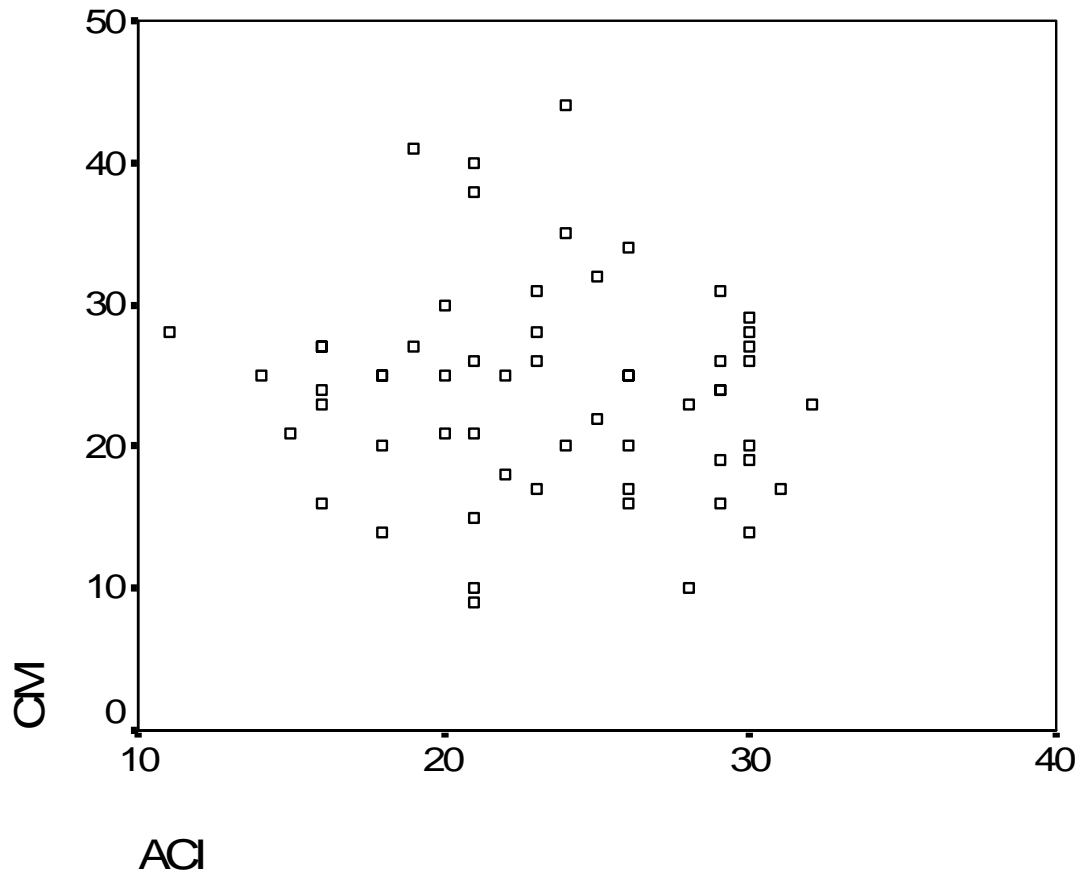


Figure 15. Scatter plot graph for the correlation between Concern Over Mistakes (CM) and Anger Control-In (ACI).

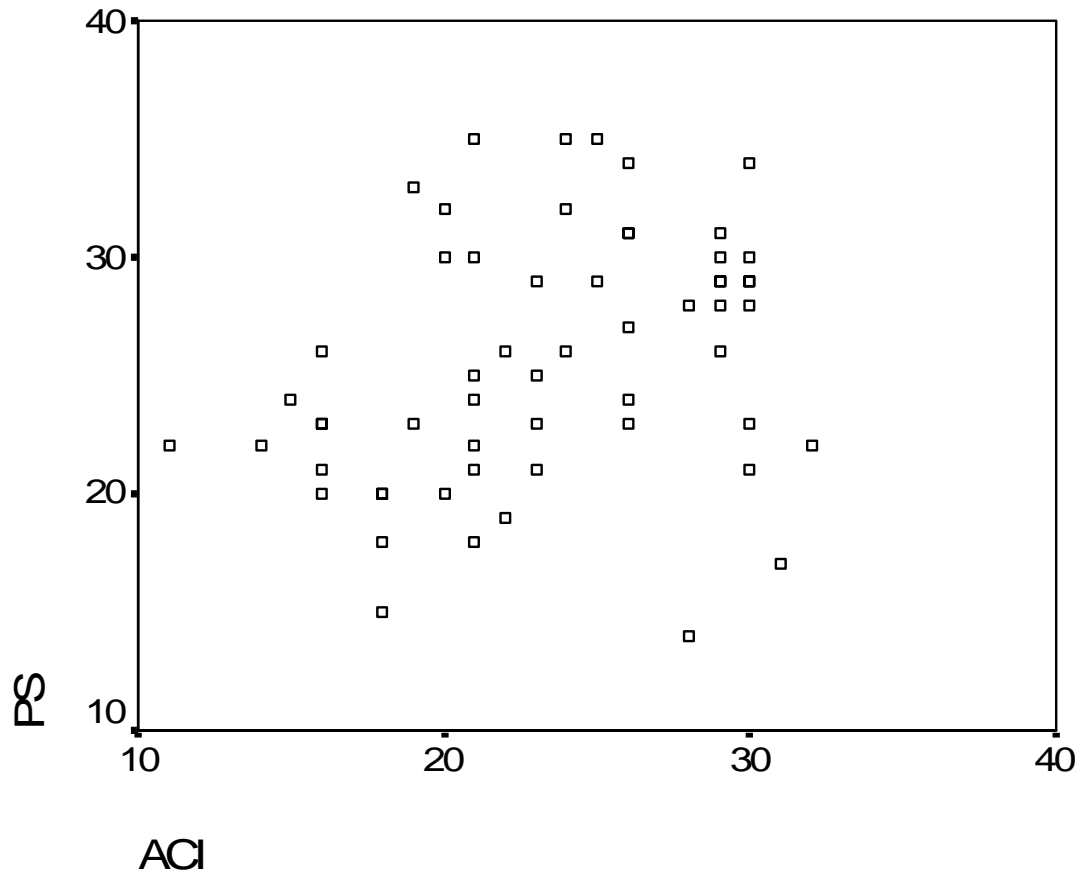


Figure 16. Scatter plot graph for the correlation between Personal Standards (PS) and Anger Control-In (ACI).



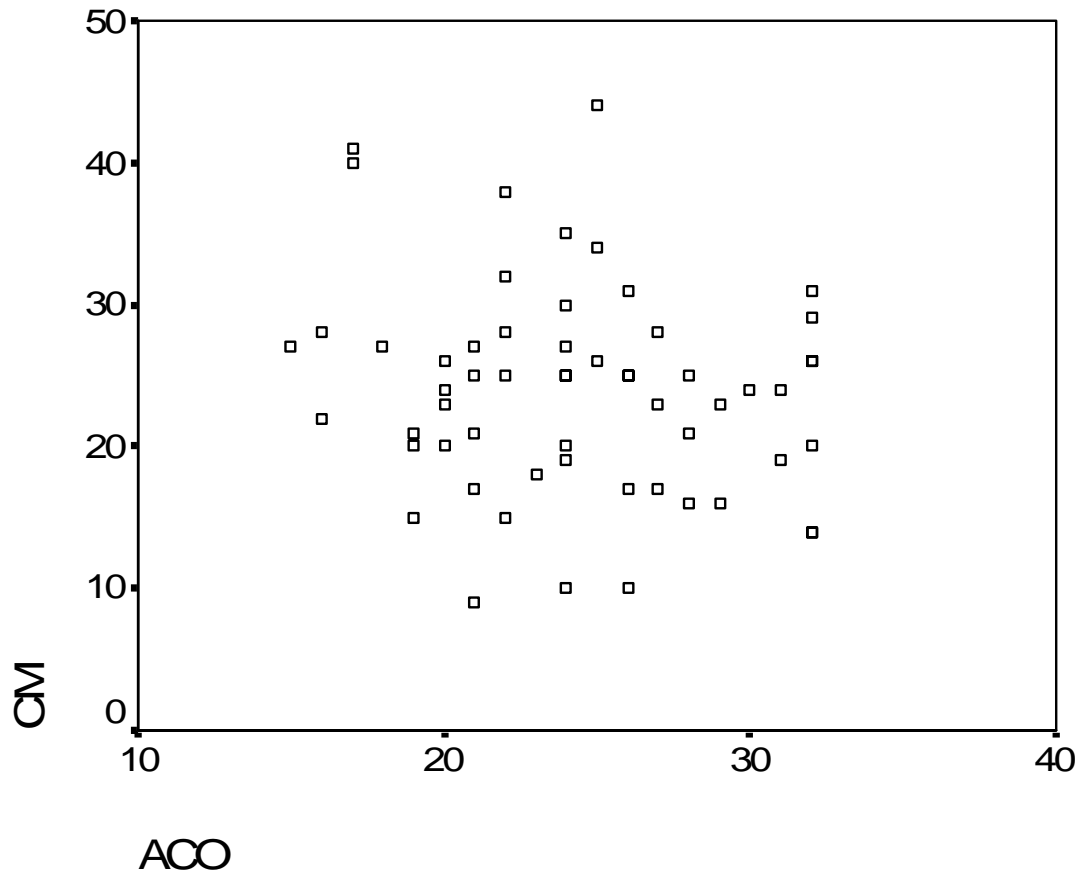
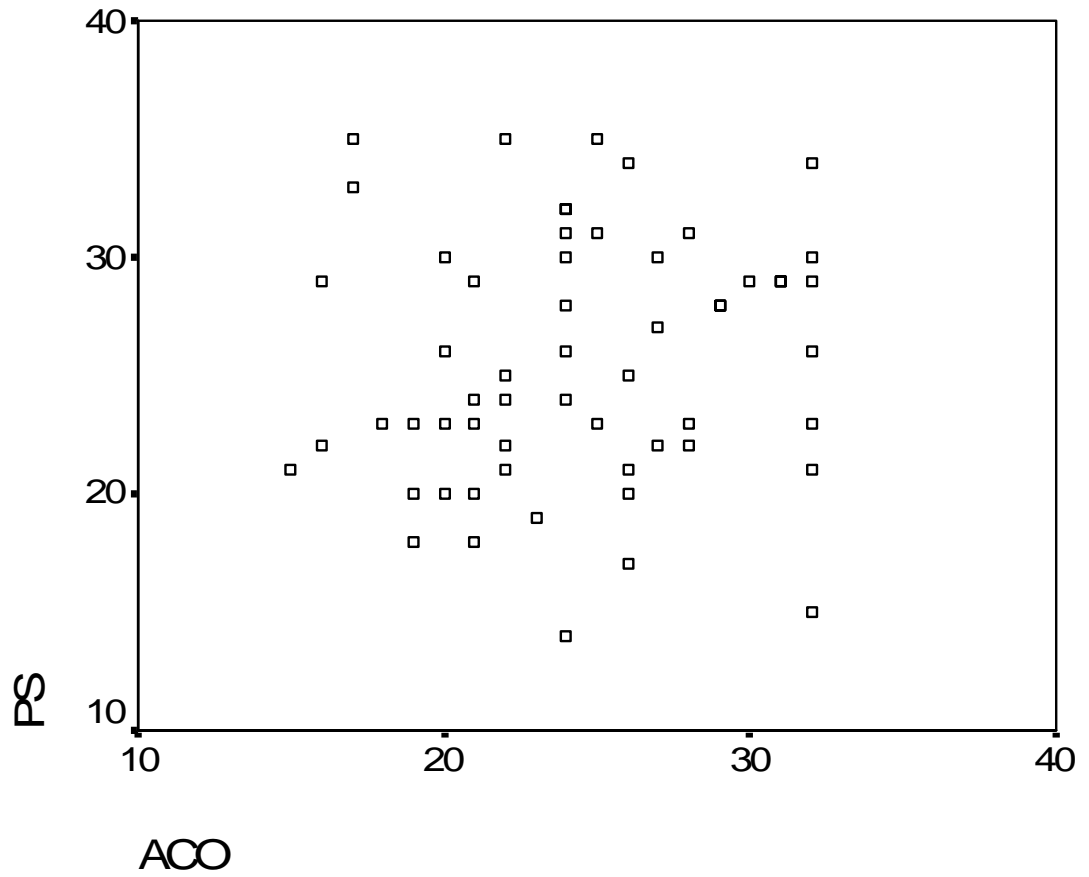
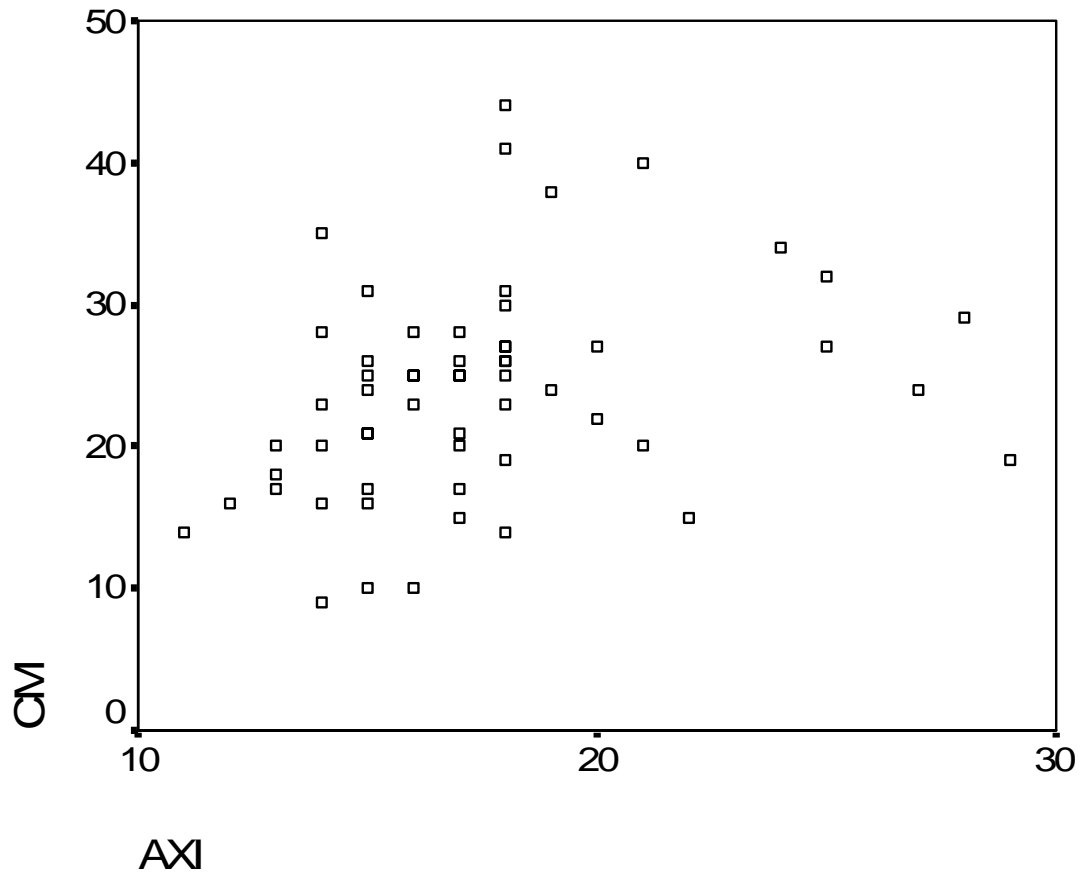


Figure 17. Scatter plot graph for the correlation between Concern Over Mistakes (CM) and Anger Control-Out (ACO).



*Figure 18.* Scatter plot graph for the correlation between Personal Standards (PS) and Anger Control-Out (ACO).



*Figure 19.* Scatter plot graph for the correlation between Concern Over Mistakes (CM) and Anger Expression-In (AXI).

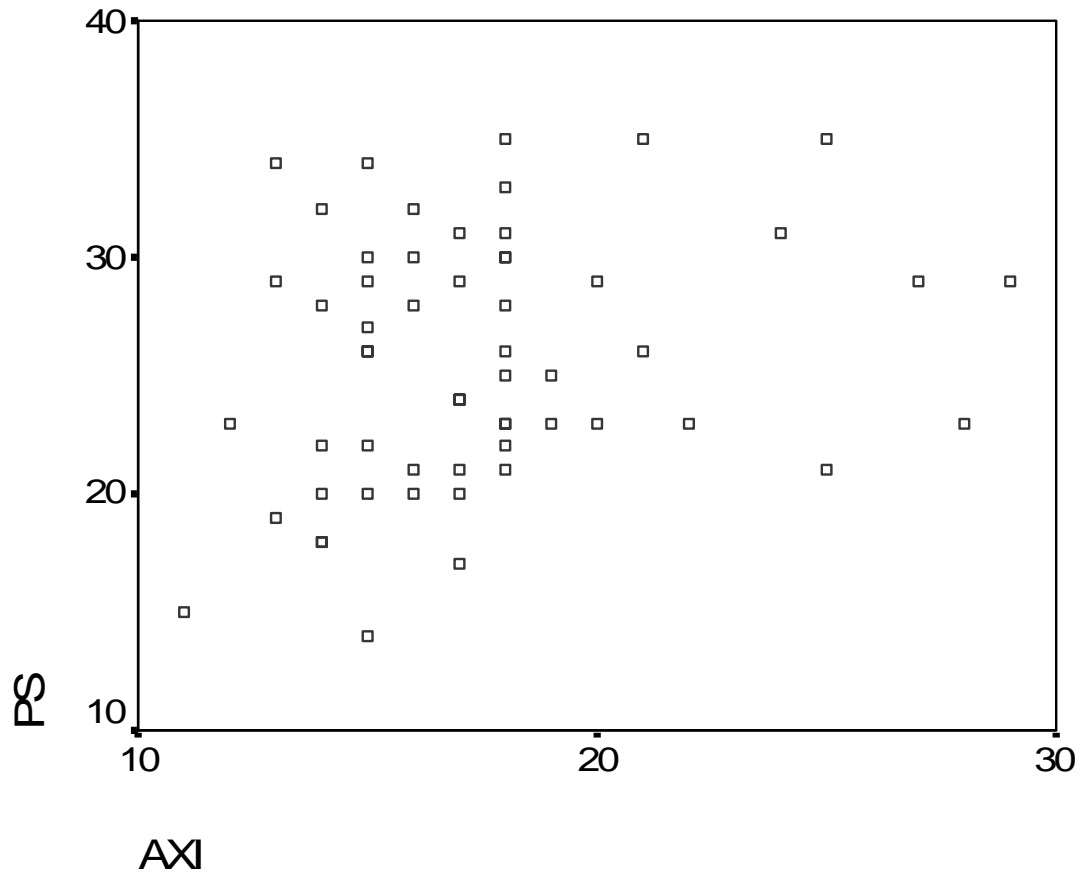


Figure 20. Scatter plot graph for the correlation between Personal Standards (PS) and Anger Expression-In (AXI).

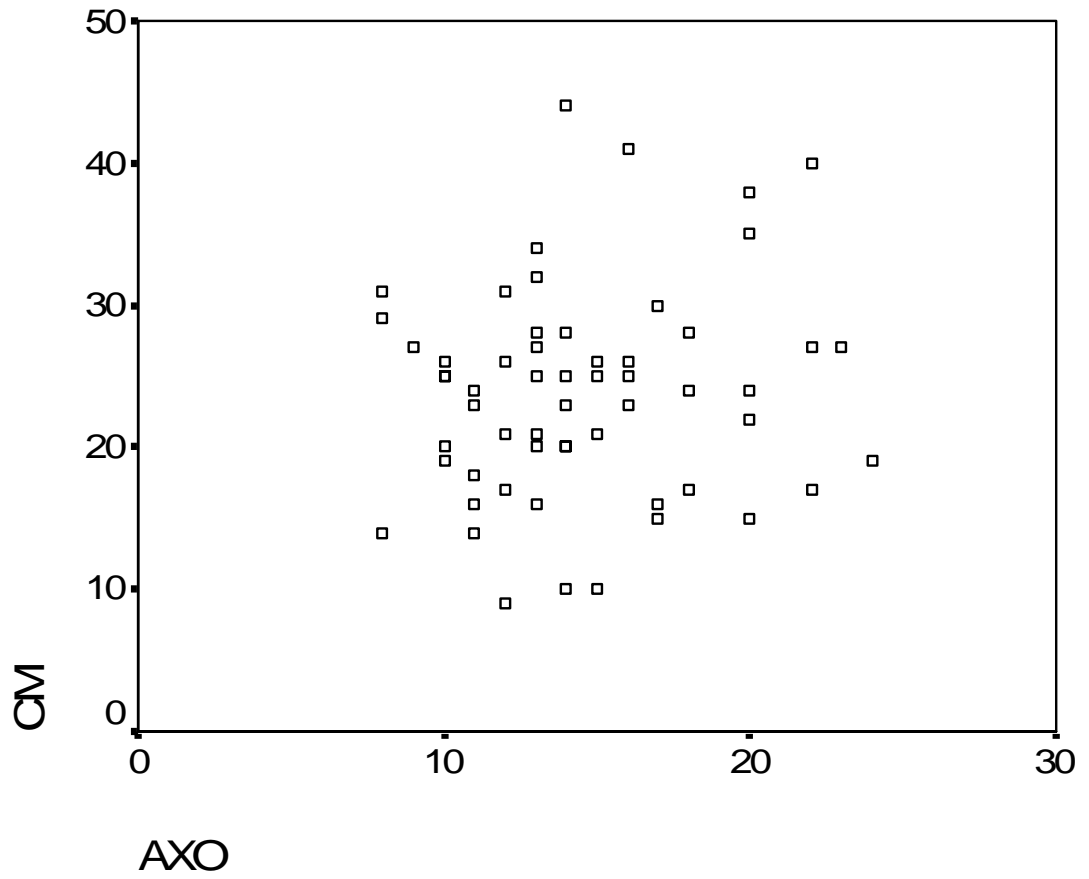
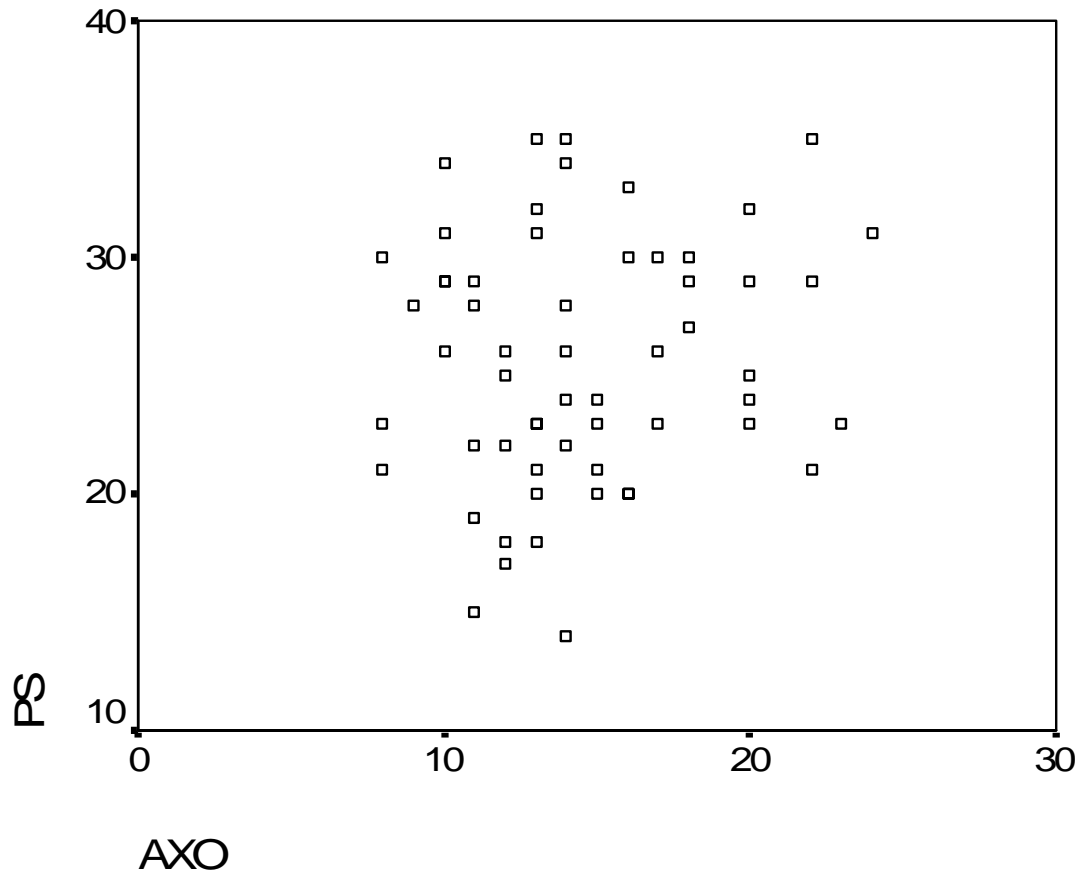
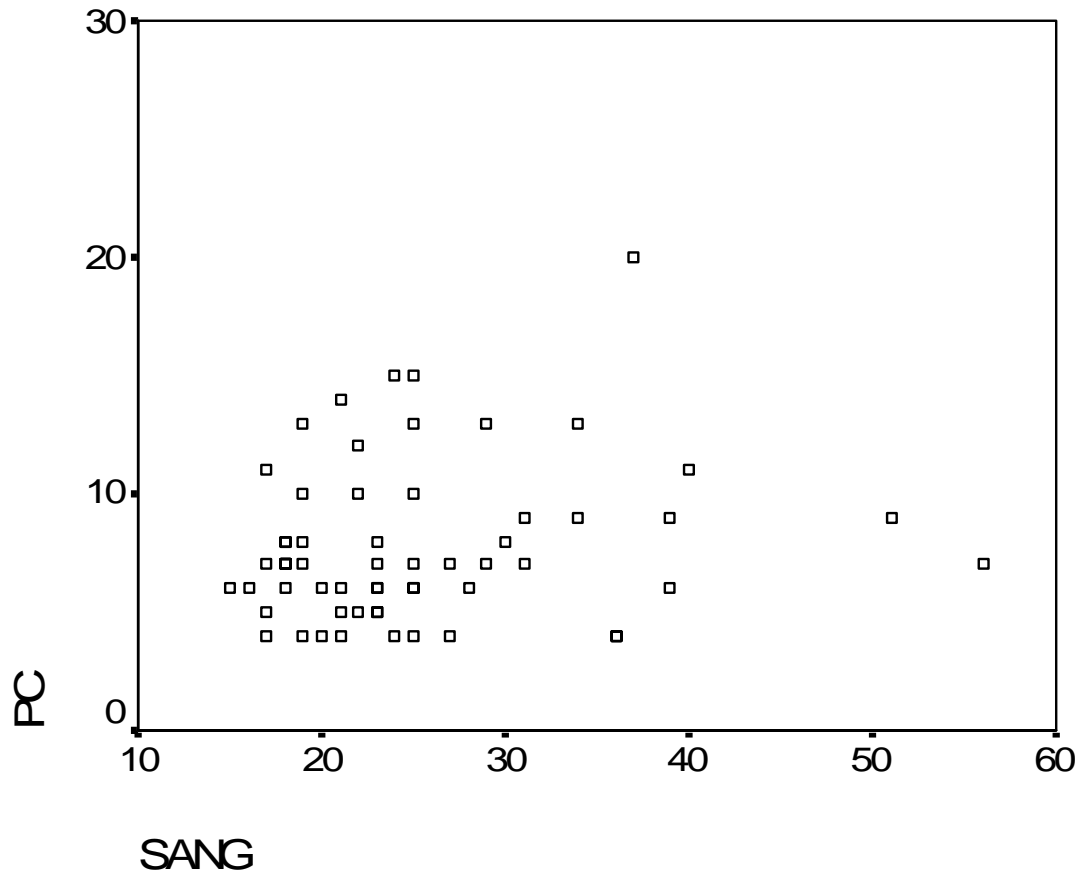


Figure 21. Scatter plot graph for the correlation between Concern Over Mistakes (CM) and Anger Expression-Out (AXO).



*Figure 22.* Scatter plot graph for the correlation between Personal Standards (PS) and Anger Expression-Out (AXO).



*Figure 23.* Scatter plot graph for the correlation between Parental Criticism (PC) and State Anger (SANG).

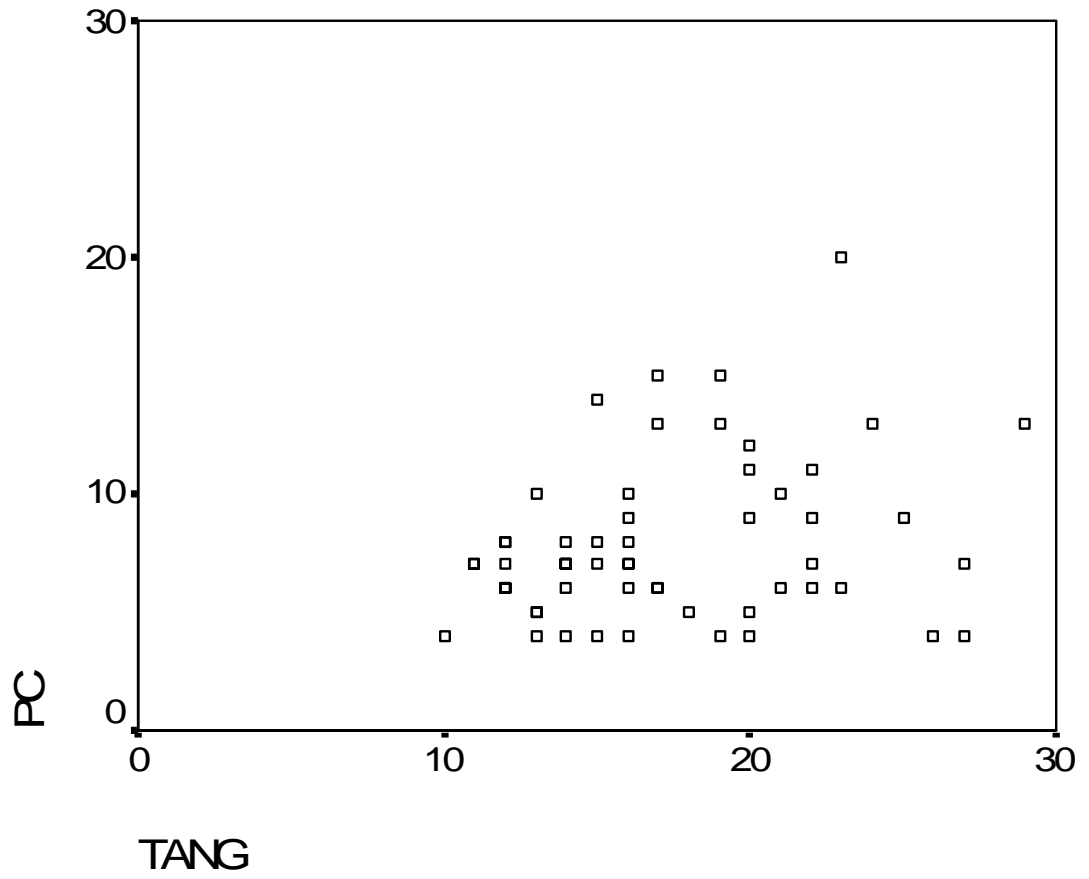
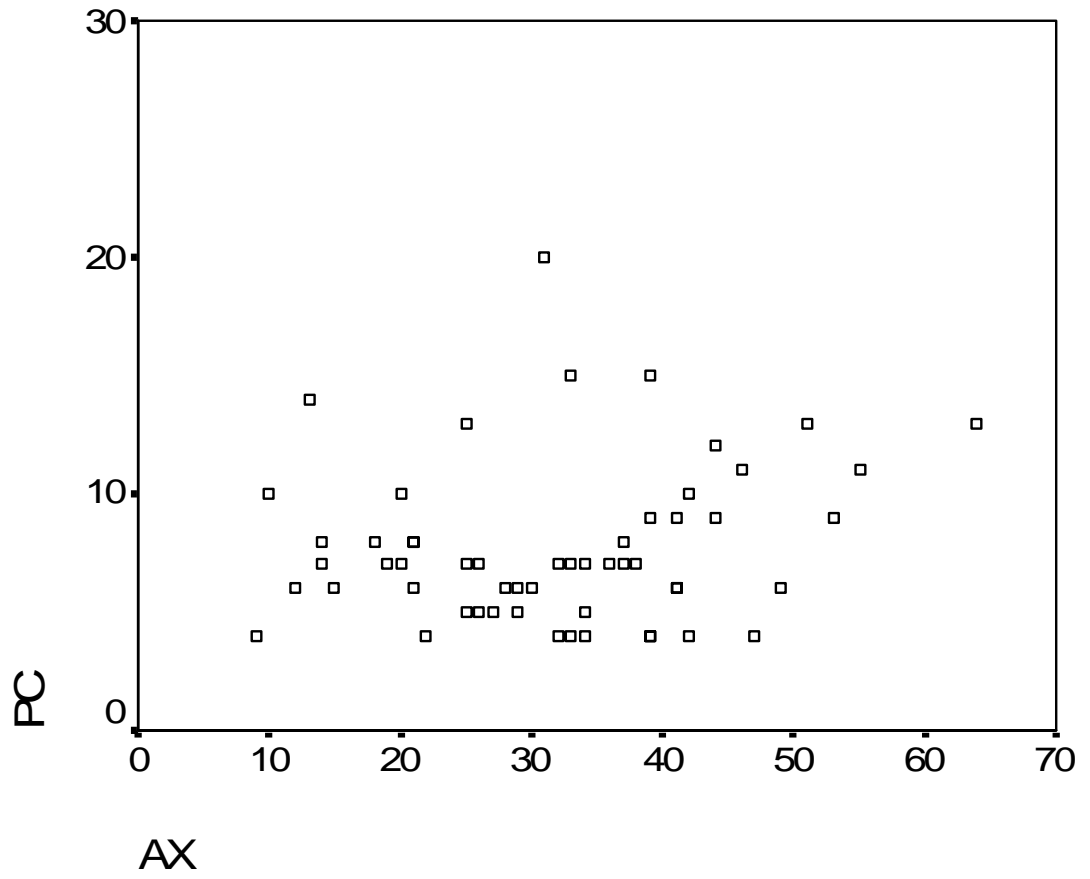
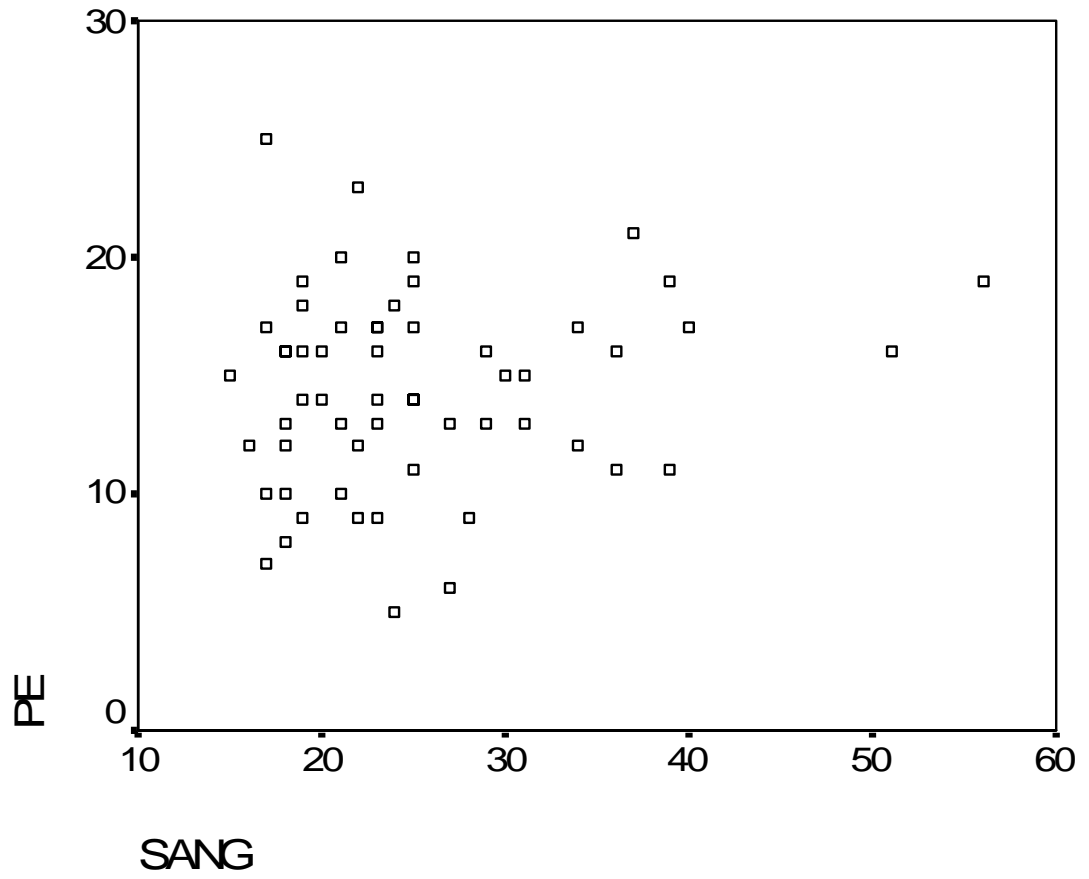


Figure 24. Scatter plot graph for the correlation between Parental Criticism (PC) and Trait Anger (TANG).

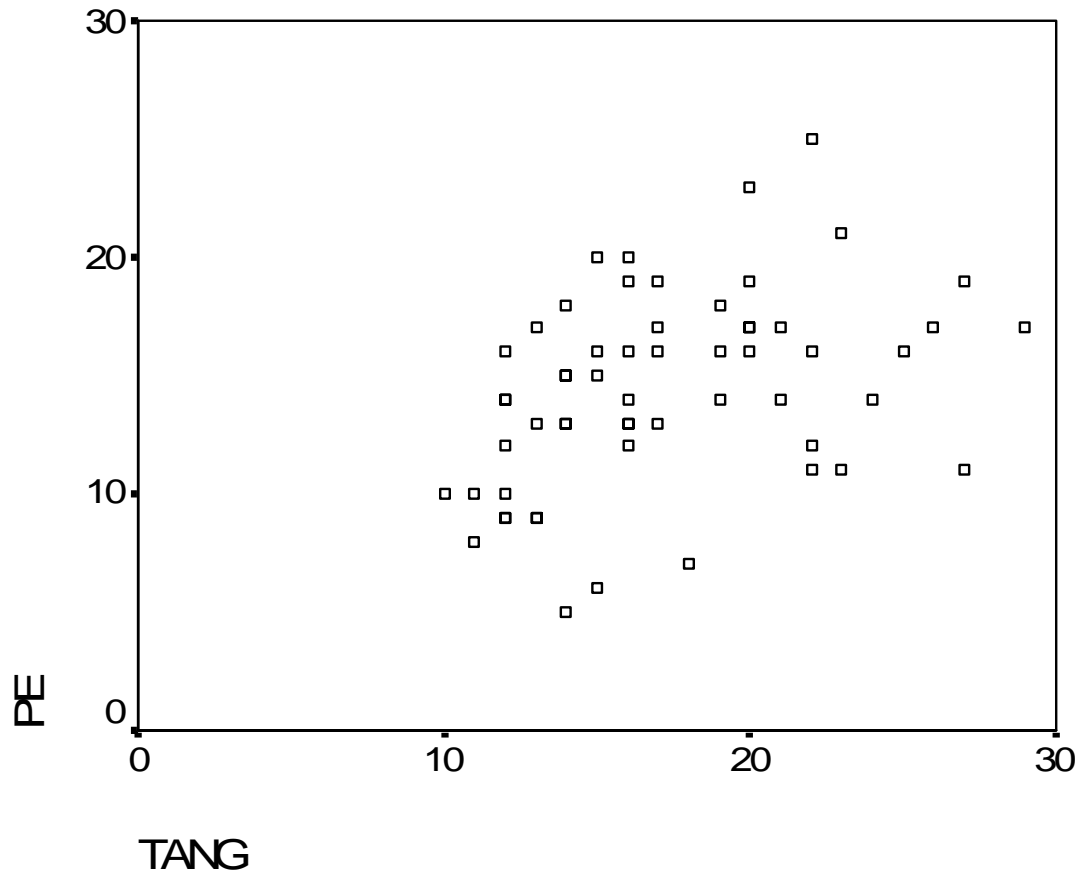




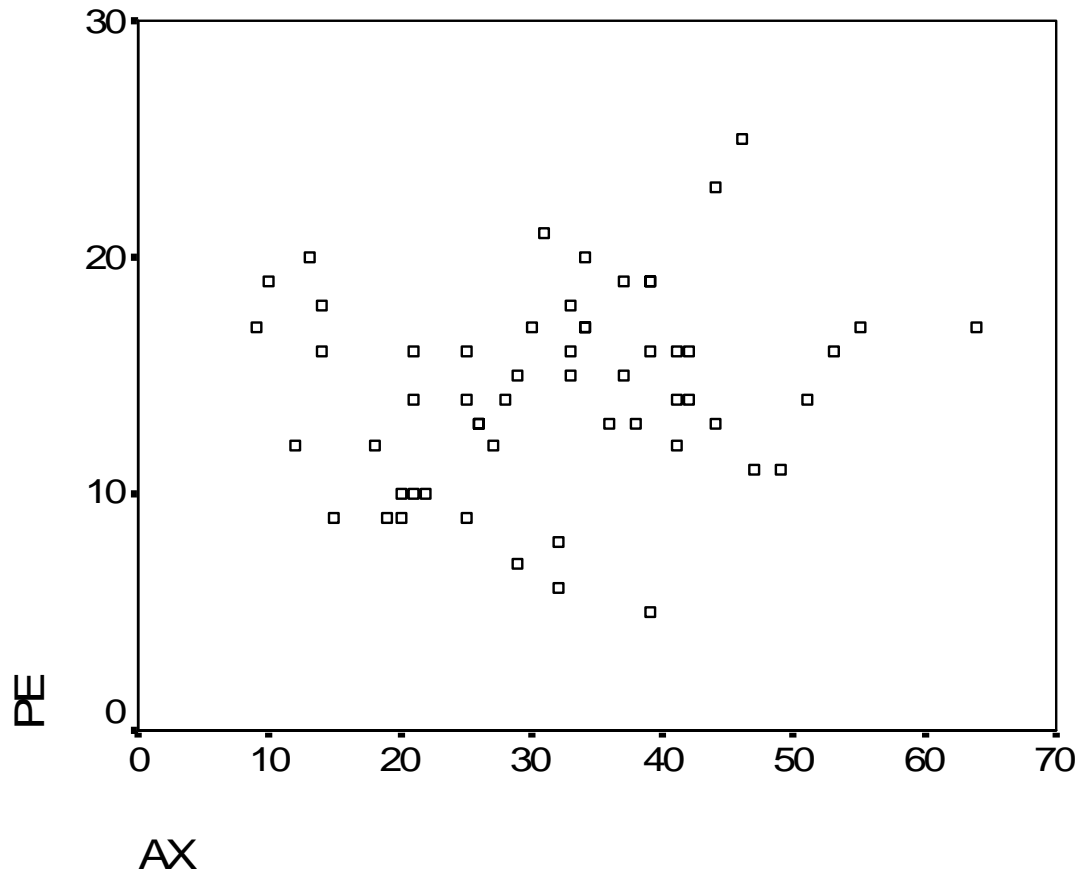
*Figure 25.* Scatter plot graph for the correlation between Parental Criticism (PC) and the Anger Expression Index (AX).



*Figure 26.* Scatter plot graph for the correlation between Parental Expectations (PE) and State Anger (SANG).



*Figure 27.* Scatter plot graph for the correlation between Parental Expectations (PE) and Trait Anger (TANG).



*Figure 28.* Scatter plot graph for the correlation between Parental Expectations (PE) and the Anger Expression Index (AX).

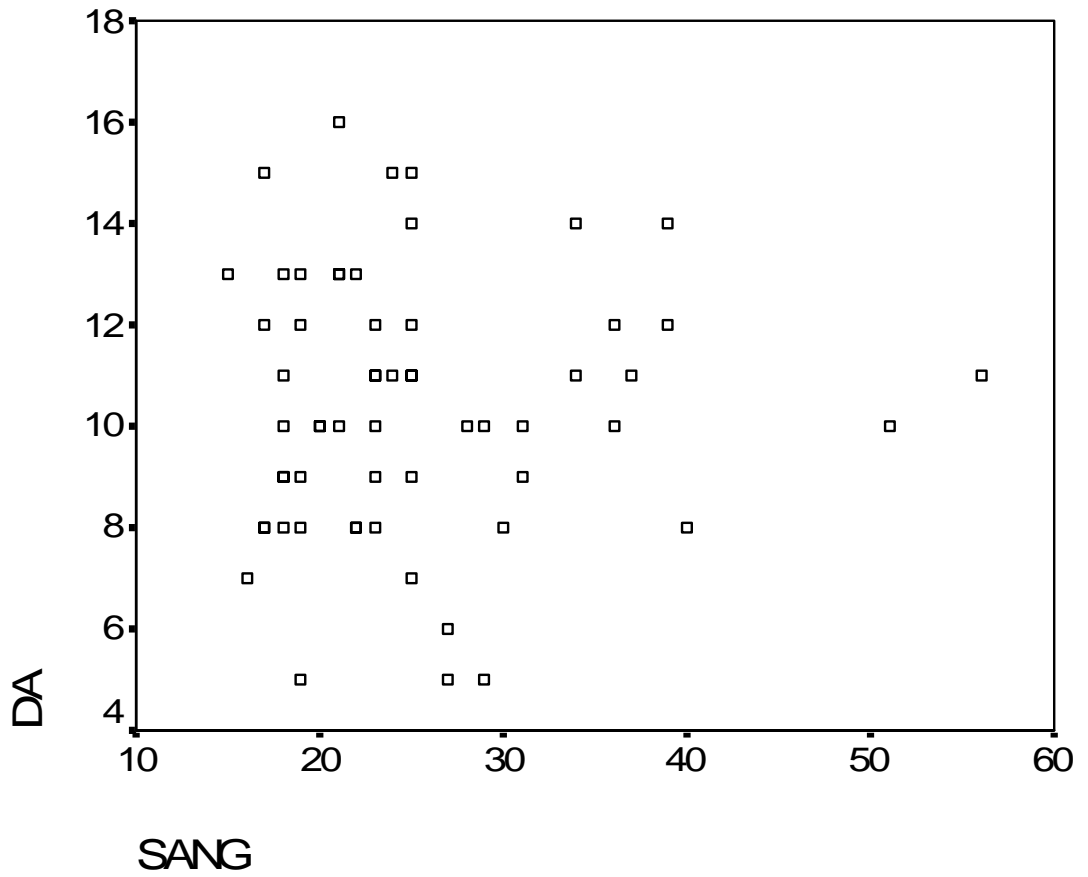
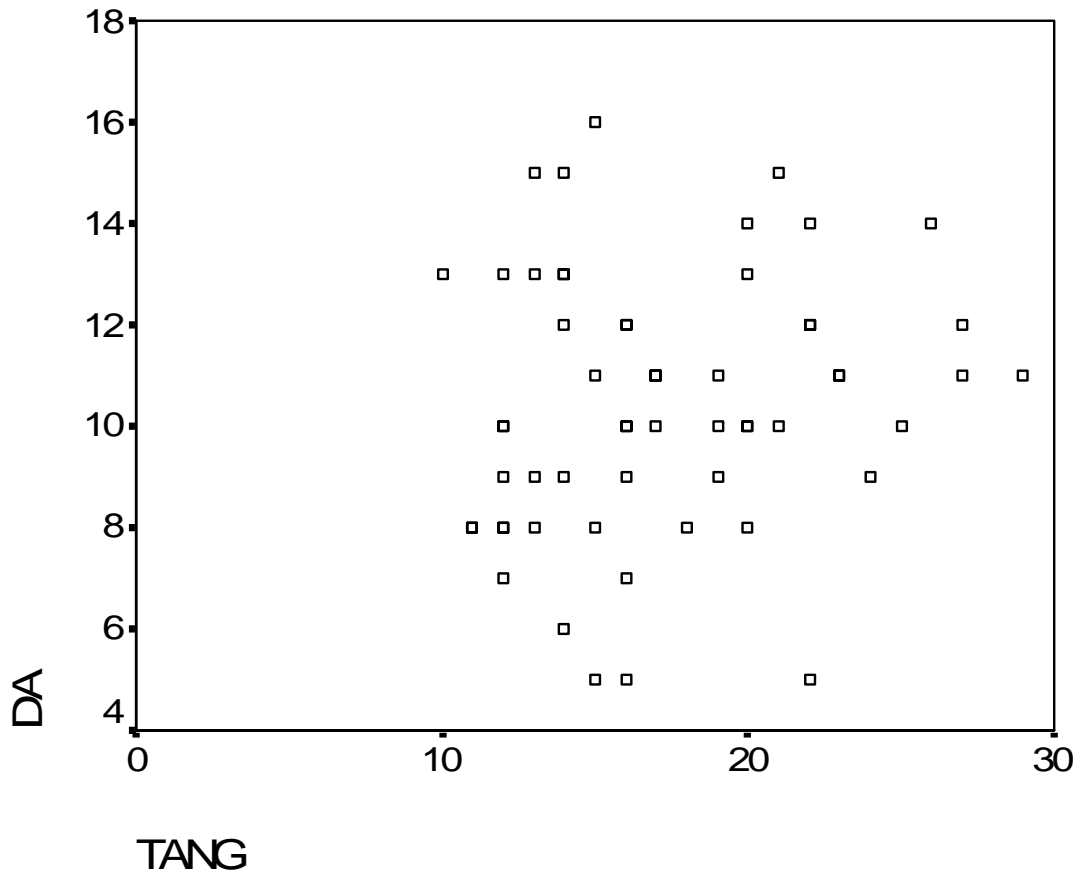
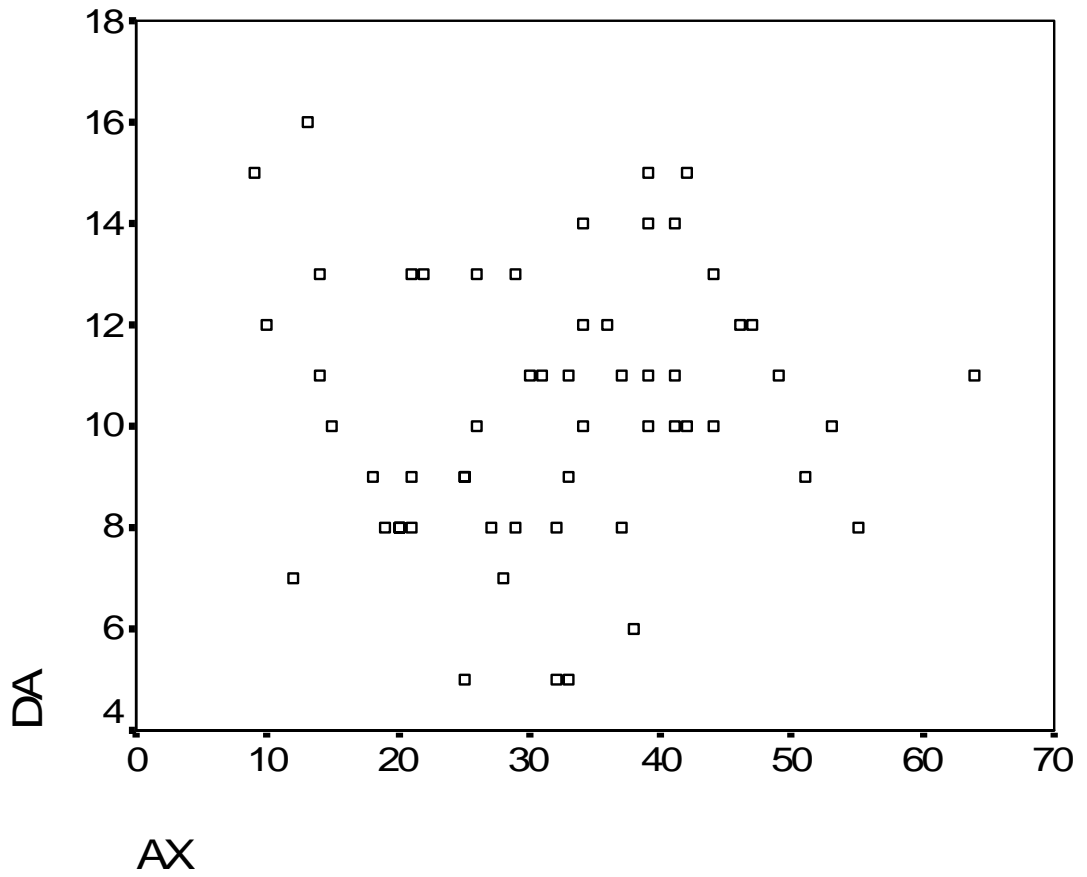


Figure 29. Scatter plot graph for the correlation between Doubt About Actions (DA) and State Anger (SANG).



*Figure 30.* Scatter plot graph for the correlation between Doubts About Actions (DA) and Trait Anger (TANG).



*Figure 31.* Scatter plot graph for the correlation between Doubts About Actions (DA) and the Anger Expression Index (AX).

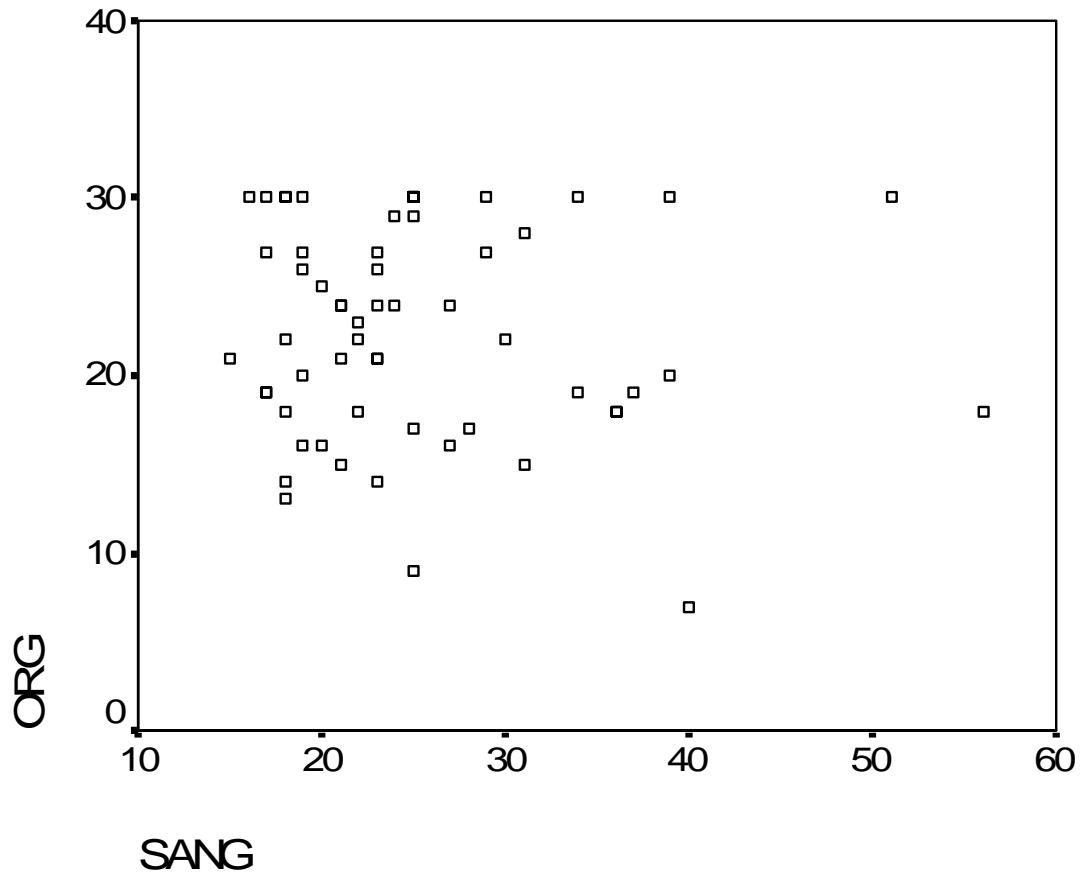


Figure 32. Scatter plot graph for the correlation between Organization (ORG) and State Anger (SANG).



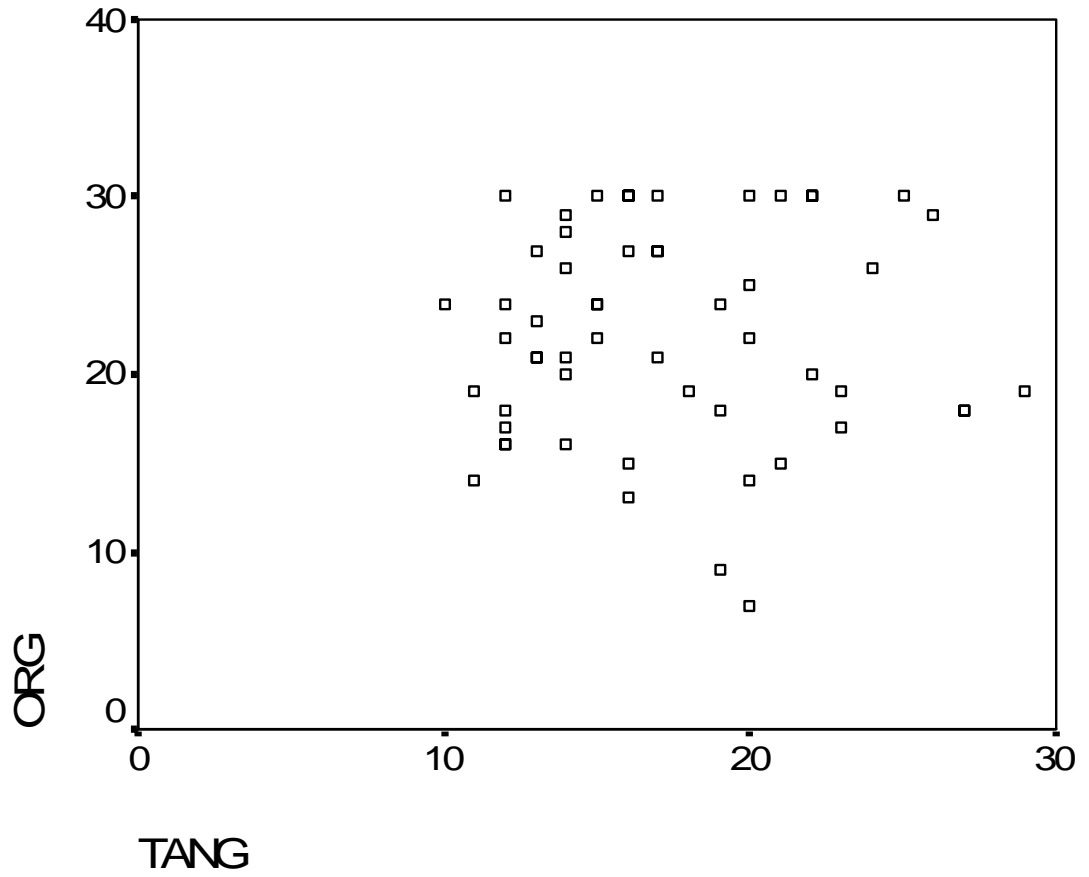


Figure 33. Scatter plot graph for the correlation between Organization (ORG) and Trait Anger (TANG).

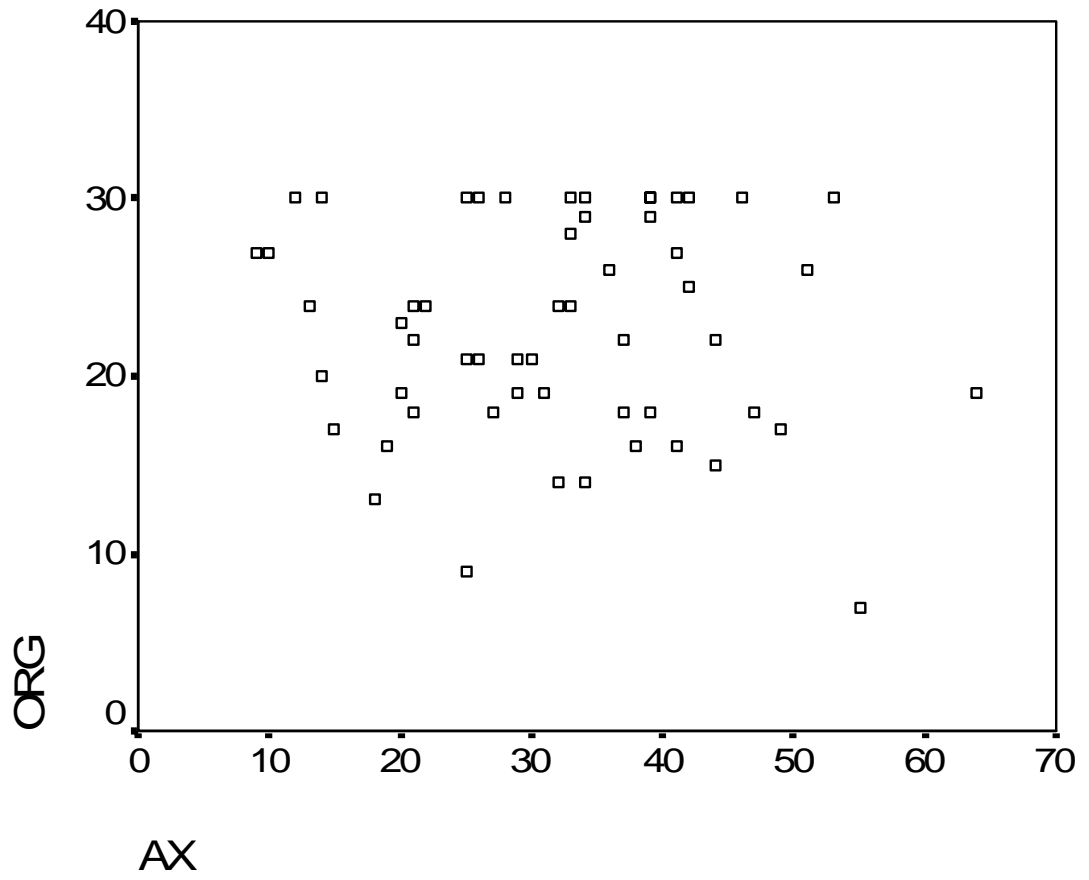


Figure 34. Scatter plot graph for the correlation between Organization (ORG) and the Anger Expression Index (AX).

## REFERENCES

- Anshel, M. H., & Eom, H. (2002). Exploring the dimensions of perfectionism in sport. *International Journal of Sport Psychology, 34*, 255-271.
- Burns, D. (1980, November). The perfectionist's script for self-defeat. *Psychology Today, 34*-51.
- Buss, A. H., & Durkee, A. (1957). An inventory for assessing different kinds of hostility. *Journal of Counseling Psychology, 21*, 343-349.
- Eysenck, H. J., & Eysenck, S. B. G. (1975). *Manual of the Eysenck Personality Questionnaire*. London: Hodder and Stroughton.
- Fazackerley, R., Lane, A. M., & Mahoney, C. (2004). Mood and performance relationships in wakeboarding. *Journal of Sport Behavior, 27*, 18-30.
- Flett, G. L., Hewitt, P. L., Endler, N. S., & Tassone, C. (1995). Perfectionism and components of state and trait anxiety. *Current Psychology, 13*, 326-350.
- Frost, R. O., Heimberg, R. G., Holt, C. S., Mattia, J. I., & Neubauer, A. L. (1993). A comparison of two measures of perfectionism. *Personality and Individual Differences, 14*, 119-126.
- Frost, R. O. & Henderson, K. J. (1991). Perfectionism and reactions to athletic competition. *Journal of Sport & Exercise Psychology, 13*, 323-355.
- Frost, R. O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research, 14*, 449-468.
- Forgays, D. G., Forgays, D. K., & Spielberger, C. D. (1997). Factor structure of the state-trait anger expression inventory. *Journal of Personality Assessment, 69*, 497-507.

- Garner, D.M., Olmstead, M.P., & Polivy, J. (1983). Development and validation of a multidimensional eating disorder inventory for anorexia nervosa and bulimia. *International Journal of Eating Disorders, 10*, 15-24.
- Gotwals, J. K., Dunn, J. G. H., & Wayment, H. A. (2003). An examination of perfectionism and self-esteem in intercollegiate athletes. *Journal of Sport Behavior, 26*, 17-38.
- Hamachek, D. E. (1978). Psychodynamics of normal and neurotic perfectionism. *Psychology, 15*, 27-33.
- Hathaway, S. R., & McKinley, J. C. (1967). *MMPI manual* (rev. ed.). New York : The Psychological Corporation.
- Hewitt, P. L., Caelian, C. F., Flett, G. L., Sherry, S. B., Collins, L., & Flynn, C. A. (2002). Perfectionism in children: Associations with depression, anxiety, and anger. *Personality and Individual Differences, 32*, 1049-1061.
- Hewitt, P. L., & Flett, G. L. (1991). Perfectionism in the self and social contexts: Conceptualization, assessment, and association with psychopathology. *Journal of Personality and Social Psychology, 100*, 98-101.
- Hill, R. W., Zrull, M. C., & Turlington, S. (1997). Perfectionism and interpersonal problems. *Journal of Personality Assessment, 69*, 81-103.
- Lombardi, D. N., Florentino, M. C., & Lombardi, A. J. (1998). Perfectionism and abnormal behavior. *The Journal of Individual Psychology, 54*, 61-71.
- Lutwak, N., Panish, J. B., Ferrari, J. R., & Razzino, B. E. (2001). Shame and guilt and their relationship to positive expectations and anger expressiveness. *Adolescence, 36*, 641-643.

- Parker, W. D. & Adkins, K. K. (1995). Perfectionism and the gifted. *Roeper Review*, 17, 13-16.
- Owens, R.G., & Slade, P.D. (1987). Running and anorexia nervosa; an empirical study. *International Journal of Eating Disorders*, 6, 771-775.
- Randolph, J.J., & Dykman, B.M. (1998). Perceptions of parenting and depression-proneness in the offspring: Dysfunctional attitudes as a mediating mechanism. *Cognitive Therapy and Research*, 22, 377-400.
- Saboonchi, F., & Lundh, L. (2003). Perfectionism, anger, somatic health, and positive affect. *Personality and Individual Differences*, 35, 1585-1599.
- Spielberger, C. D. (1999). *Manual for the State-Trait Anger Expression Inventory-2*. Odessa, FL: Psychological Assessment Resources.
- Spielberger, C. D., Jacobs, G. H., Russell, S. F., & Crane, R. S. (1983). Assessment of anger: The State-Trait Anger-Scale, In J. N. Butcher & C. D. Spielberger (Eds.), *Advances in personality assessment* (Vol. 2, pp. 159-187). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Vallance, J., & Dunn, J. G. H. (2002a, October). *Multidimensional sport-perfectionism and trait anger in competitive youth ice hockey*. Paper presented at the annual conference for the Association for the Advancement of Applied Sport Psychology, Philadelphia, PA.
- Vallance, J., & Dunn, J. G. H. (2002b, September). *The influence of perfectionism and situation criticality upon competitive anger responses in youth ice hockey*. Paper presented at the annual conference for the Canadian Society for Psychomotor Learning and Sport Psychology, Vancouver, BC.

## APPENDICES

## APPENDIX A

Research Hypotheses

Research Questions

Limitations

Delimitations

Assumptions

Definition of Terms

### *Research Hypotheses*

RH1: CM subscale will be positively correlated with SANG.

RH2: The correlation between the CM subscale and SANGF will be significantly stronger than the correlation between the PS subscale and the SANGF subscale.

RH3: The correlation between the CM subscale and the SANGV will be significantly stronger than the correlation between the PS subscale and the SANGV subscale.

RH4: CM subscale and PS subscale will be significantly and positively correlated with SANGP.

RH5: PS subscale will have a significantly stronger correlation with TANG than CM.

RH6: There will be no significant gender differences on the subscales CM, PS, PC and PE.

RH7: Men will have significantly higher SANG scores than women.

RH8: There will be no significant gender differences for TANG.

RH9: Women will score significantly higher on AX-I than men.

RH10: Men will score significantly higher on AX-O than women.

### *Research Questions*

RQ1: What relationships do AC-O and AC-I have with PS subscale and CM subscale of perfectionism?

RQ2: What relationships do PC, PC, DA, and O subscales have with SANG, TANG, and the AX Index?



RQ3: What relationships do CM and PS have with TANGT and TANGR?

*Limitations*

1. Participants in this study were from a non-random convenience sample.
2. The scales were only administered one time.
3. The length and breadth of diving experience beyond the prerequisites in diving were not known.

*Delimitations*

1. Participants in this study were only springboard divers who actively competed in collegiate diving.
2. The age range of the participants was narrow (18-26 years).
3. Only one scale was used to measure perfectionism.

*Assumptions*

1. Participants completed the scales honestly.
2. Participants understood the scales completely.
3. Participants were representative of the general population of competitive divers.
4. Scales were administered correctly.

*Definitions*

1. Perfectionism - actions and behaviors that lead to the setting of exceptionally high standards for oneself for the purpose of being the best in the chosen endeavor. These actions are accompanied by highly self-critical evaluations by the perfectionist (Burns, 1980; Frost, Marten, Lahart, & Rosenblate, 1990; Hill, Zrull, & Turlington, 1997; Lombardi, Florentino & Lombardi, 1998).

Perfectionism was measured by the Frost Multidimensional Perfectionism Scale (Frost et. al).

2. State anger - how intensely an individual experiences anger either during the testing period or during a time or situation specified by the test administrator (Spielberger, 1999). State anger was measured by the State-Trait Anger Expression Inventory-2 (STAXI-2; Spielberger).
3. Trait anger - an individual's proneness to being angry (Spielberger, 1999). Trait anger was measured by the STAXI-2 (Spielberger).
4. Anger expression-out - an individual's tendency to express his or her anger in an outward manner negatively or with little control (Spielberger, 1999). Anger expression-out was measured by the STAXI-2 (Spielberger).
5. Anger expression-in - how frequently an individual suppresses his or her anger when experiencing anger (Spielberger, 1999). Anger expression-in was measured by the STAXI-2 (Spielberger).
6. Anger control-out - how much energy is used to control outward physical or verbal expressions of anger (Spielberger, 1999). Anger control-out was measured by the STAXI-2 (Spielberger).
7. Anger control-in - the extent to which an individual tries to control, or decrease anger, prior to it becoming out of control (Spielberger, 1999). Anger control-in was measured by the STAXI-2 (Spielberger).
8. Anger expression index – a general indication of anger expression (Spielberger, 1999). Anger expression index was measured by the STAXI-2 (Spielberger).

9. Perfectionism subscales: (F-MPS by Frost, Marten, Lahart, & Rosenblate, 1990)
- a. concern over mistakes - the extent to which an individual reacts negatively to one's own mistakes.
  - b. personal standards - the extent to which a person sets high standards.
  - c. parental expectations - the strength of an individual's perceptions regarding his or her parents' setting of high standards for the individual.
  - d. parental criticism - how a person perceives criticism from parents regarding performances.
  - e. doubt about actions - how satisfied or dissatisfied an individual is with a performance or project.
  - f. organization - how important order and neatness is to an individual.
10. Anger subscales: (STAXI-2 by Spielberger, 1999)
- a. state anger/feeling angry - the intensity of various feelings related to anger such as fury, irritation, or annoyance.
  - b. state anger/feel like expressing anger verbally - how strongly the subject feels like expressing anger in a verbal manner.
  - c. state anger/feel like expressing anger physically - how strongly the subject feels like expressing anger in a physical manner.
  - d. trait anger/angry temperament - a person's overall anger temperament regardless of situational factors.

- e. trait anger/angry reaction - how an individual responds to perceived unfair treatment or criticism from others.

## APPENDIX B

### Extended Review of Literature

## *Perfectionism*

The origins of perfectionism, although not completely understood, have primarily been attributed to the relationship between children and parents (Enns, Cox, & Clara, 2002; Frost, Lahart, & Rosenblate, 1991; Hamachek, 1978). Hamachek put forth that children whose parents have high self standards could develop adaptive perfectionism, while those whose parents expect their children to meet high standards, and are rarely satisfied with the children's achievements, are more likely to develop maladaptive perfectionism. A more recent study has concluded that "perfectionistic parenting," or having high standards and expectations for one's self and one's child, and "harsh parenting," a more controlling and critical style of perfectionistic parenting, can both lead to maladaptive perfectionism in children. However, perfectionistic parenting can potentially lead to adaptive perfectionism, while harsh parenting is not likely to do so. This finding appears to be due to the presence of more optimal parenting characteristics, such as secure parent-child attachments and adaptive perfectionism modeling by parents, in "perfectionistic parenting" environments, as opposed to the presence of less optimal parenting characteristics, such as excessive demands and weaker parent-child attachments, more prevalent in environments representative of "harsh parenting" (Enns et al.).

This conceptualization of maladaptive and adaptive perfectionism has been the basis for much research in the study of perfectionism and has led to the formation of several models (Anshel & Eom, 2002; Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991; Terry-Short, Owens, Slade, & Dewey, 1995). Although several scales have been developed to measure perfectionism, the two most frequently used are the Frost

Multidimensional Perfectionism Scale (F-MPS; 1990) and the Hewitt and Flett Multidimensional Perfectionism Scale (HF-MPS; 1991).

The HF-MPS measures three dimensions of perfectionism: self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism. Self-oriented perfectionism is described as the setting of extremely high standards for oneself, and being highly evaluative and critical of one's own behavior. Self-oriented perfectionists are motivated by an intense drive to be perfect in what he or she does with little room for error. Other-oriented perfectionism is the tendency to set unrealistic standards for significant individuals in one's life. It is similar to self-oriented perfectionism except the perfectionism is demanded of others. Socially oriented perfectionism is the perception one has about standards believed to be set by others that must be met to attain approval. A socially prescribed perfectionist perceives others as having imposed extremely high standards on the individual and experiences outside pressure to meet these standards or be subjected to extremely negative evaluations. These perfectionists are driven by a fear of failure to avoid falling short of these perceived expectations.

The F-MPS subscales, although different from those described above, have significant relationships with the HF-MPS subscales. Personal standards was positively correlated with self-oriented perfectionism; Concern over mistakes, parental expectations, and parental criticism were all independently and positively correlated with socially-prescribed perfectionism. Other-oriented perfectionism was not significantly correlated with any of the F-MPS dimensions. Organization was not significantly correlated with any of the subscales, which leads to the conclusion that it may not be as important of a

component to perfectionism as the other dimensions (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993).

Two independent factor analyses have classified the above correlations in similar ways with regards to their adaptive and maladaptive characteristics. Frost, Heimberg, Holt, Mattia, and Neubauer (1993) formed the “maladaptive evaluation concerns” factor, which consisted of high loadings on concern over mistakes, parental criticism, parental expectations, doubts about actions, and socially prescribed perfectionism. They also formed the “positive striving” factor that consisted of high loadings on personal standards, organization, socially prescribed perfectionism, and other-oriented perfectionism. This grouping exhibits much more adaptive characteristics of perfectionism. A similar study focusing on the expressions of perfectionists’ self-criticism resulted in comparable loadings with regards to positive and negative aspects of perfectionism (Powers, Zuroff, & Topciu, 2004). These correlations are essential to the study of perfectionism because each of these scales have been used frequently with different foci. The HF-MPS has a more interpersonal nature and has been used to examine many different psychopathologies, while the F-MPS is more focused on intrapersonal characteristics of perfectionism (Parker & Adkins, 1995). This scale has been used more frequently in studies dealing with sport and exercise, although Anshel and Eom (2002) concluded that the doubts about actions and organization subscales were not associated with sports participation.

Perfectionism by and large has been viewed as a negative personality characteristic throughout much of the most recent research. However, there have been a few studies that have found significant correlations with adaptive behaviors stemming



from perfectionism. Frost, Marten, Lahart, and Rosenblate (1990) concluded that personal standards and organization were independently and negatively correlated with procrastination, while Enns, Cox, and Clara (2002) concluded that adaptive perfectionism, comprised of higher scores in personal standards, organization, self-oriented perfectionism and other-oriented perfectionism, was correlated negatively with depression proneness.

Much more prevalent in the literature regarding perfectionism is the associations with various negative psychopathologies. Studies using a variety of different perfectionism measures have found links to depression (Enns, Cox, & Clara, 2002; Owens, Haase, & Prapavessis, 2001; Powers, Zuroff, & Topciu, 2004), guilt (Frost, Marten, Lahart, & Rosenblate, 1990), procrastination (Frost et al.; Onwuegbuzie, 2001; Saddler & Sacks, 1993), eating disorders including anorexia nervosa and bulimia (Garner, Olmstead, & Polivy, 1983; Owens et al.; Owens & Slade, 1987), fear of failure (Hamachek, 1978; Zinsser, Bunker, & Williams, 2001), maladaptive self-esteem (Doebler, Schick, Beck, & Astor-Stetson, 2000; Gotwals, Dunn, & Wayment, 2003; Koivula, Hassmen, & Falby, 2002) and social physique anxiety (Owens et al.). Despite the wide range of issues above, an argument could be made that all are related to what appears to be the most thoroughly researched, and most influential negative construct: anxiety.

### *Perfectionism and Anxiety*

An examination of the relationship between perfectionism and anxiety includes the topic of arousal. Arousal is a term that refers to a response by one's body to increase its overall activation level, which can affect one's behavior positively or negatively

(Landers & Arent, 2001). An uncontrolled and excessive amount of arousal can lead to increased levels of anxiety (Landers & Arent).

This relationship between perfectionism and anxiety has been investigated in numerous studies (Flett, Hewitt, Endler, & Tassone, 1995; Frost & Henderson, 1991; Hall, Kerr, & Matthews, 1998; Hewitt et al., 2002; Owens, Haase, & Prapavessis, 2001; Schuler, 2000). Flett et al. examined the different dimensions of perfectionism and found that self-oriented perfectionism and socially prescribed perfectionism were related to autonomic arousal, with socially prescribed perfectionism having the strongest correlation with state anxiety for conditions in which the individual's ego was threatened. This possibly can be explained because of the socially prescribed perfectionist's focus on reaching socially determined standards, which, according to Higgins (1987) has been found to be one source of anxiety. A socially prescribed perfectionist strives to eclipse certain criteria perceived to be necessary to gain favor from important individuals, and this desire to "save face" can be so strong that prior to any attempt at reaching the socially prescribed standards, the individual can focus on little else. This can have a profound effect on how an individual performs a given task because of the deep concern about the uncertainty of the result, and an inability to control that result. This perceived lack of control can increase anxiety in non-perfectionistic individuals (Landers & Arent, 2001) but magnifies anxiety to a greater extent with socially prescribed perfectionists because of the desire to meet perceived social standards (Hewitt & Flett, 1991).

This perceived lack of control, and resulting increased anxiety, regarding an outcome of a performance is increased with an evaluative component. When others are able to witness, or as the perfectionist may perceive, "judge," the performance, the result

can be an increase in negative affect, such as anxiety. This can potentially lead to a decline in the quality of the performance. This drop in performance appears to be much greater in perfectionists than non-perfectionists (Frost & Marten, 1990), and the more salient the evaluation, the higher anxiety and lower performance quality is experienced (Flett, Hewitt, Endler, & Tassone, 1995). This phenomenon can especially be witnessed within the realm of sport.

### *Perfectionism and Sport*

Athletes who score high in the concern over mistakes dimension of perfectionism are much more likely to suffer cognitive anxiety and experience a much more negative, or failure, orientation during competitions. Personal standards perfectionism has a significant positive correlation with confidence and a positive, or success, orientation towards athletic competition. However, this dimension is also related to the failure orientation, albeit to a much lesser extent (Frost & Henderson, 1991; Hall, Kerr, & Matthews, 1998). These conditions support the premise that a maladaptive perfectionist who is concerned about how his or her worth is perceived by others will be motivated by a “fear of failure” instead of a desire to reach high personal standards for their own worth (Frost & Henderson; Hamachek, 1978; Zinsser, Bunker, & Williams, 2001).

One of the most notable findings by Frost and Henderson (1991) was the relationship between the concern over mistakes dimension of perfectionism and how athletes responded to errors during competition. This study found that athletes who scored highly in the concern over mistakes subscale, in addition to operating from “fear of failure,” reacted negatively to mistakes, experienced negative thinking near the time of the competition, did not recover well from mistakes, and had more difficulty

concentrating. Each of these behaviors could potentially be a precursor or a manifestation of another construct that is both related to sport and perfectionism: anger.

### *Anger*

Anger may be experienced because of a variety different events and situations, but generally speaking from an interpersonal perspective, anger, according to Averill's 1982 essay on emotion, is manifested due to how one perceives purposeful misdeeds enacted by others (as cited in Spielberger, 1996; Spielberger et al., 1985; Spielberger, Krasner, & Solomon, 1988). From an intrapersonal perspective, anger is manifested from the frustration felt when goals are not reached, or when a situational condition cannot be sustained by an individual, despite a belief that it can (Saboonchi and Lundh, 2003).

Early attempts to measure anger did an insufficient job of distinguishing between state and trait anger, in addition to an inability to measure concepts similar to anger such as hostility and aggression. Anger primarily refers to feelings, where as hostility addresses the frequency of angry feelings and negative attitudes, and aggression is characterized as the extent to which one engages in destructive and punitive behaviors (Speilberger, 1999). To properly separate these constructs and assess the intensity of anger as an emotional state, and the individual differences in anger proneness, the State-Trait Anger Scale (STAS) was developed by Speilberger, Jacobs, Russel, and Crane (1983). Although this scale measured sufficiently what it was designed to, Speilberger et al. (1985) concluded that in addition to measuring state and trait anger, a fundamental property of anger that should be taken into account is how an individual expresses and controls anger. This lead to the creation of the Anger Expression Scale (Speilberger et al., 1985), which was then combined with the STAS to form the State-Trait Anger

Expression Inventory (STAXI; Spielberger, Krasner, & Solomon, 1988). Factor analyses of the STAXI revealed five scales and two subscales. These were labeled as trait anger (with trait anger temperament and trait anger reaction subscales), state anger, anger expression-in, anger expression-out, and anger-expression control (Spielberger & Sydeman, 1994).

The STAXI was revised and expanded to include seven scales and five subscales for even greater depth in the study of various aspects of anger and anger expression. The STAXI-2 (Spielberger, 1999) and its earlier versions, in addition to other measures of anger and anger expression, have been used in numerous studies examining anger's relationship to a variety of constructs including heart rate (Larson & Larson, 1997), blood pressure, coronary heart disease (Spielberger et al., 1985), shame and guilt (Lutwak, Panish, Ferrari, & Razzino, 2001; Tangney, Wagner, Fletcher, & Gramzow, 1992), and in diverse populations such as undergraduate students (Collins & Hailey, 1989) inmates (Dalton, Blain, & Bezier, 1998; Dear, Watt, & Dockerill, 2003) and athletes (Greene, Sears, & Clark, 1993).

### *Anger in Sport*

Much of the research found regarding the role of anger in sport focuses more so on aggressive acts (Bredemeier & Shields, 1986; Widmeyer, 1984) rather than the emotional experience of anger. However, those studies that do address anger in sport have concluded that data collected from highly successful athletes, using the Profile of Mood States (POMS) developed by McNair, Lorr, and Droppleman (as cited in Weinberg & Gould, 2003) had lower anger scores and a more pronounced "iceberg" profile of results than less successful athletes (DeMers, 1983; Rowley, Landers, Kylo, & Etnier,

1995). Evidence of this has been demonstrated in distance runners (Cockerill, Nevill, & Lyons, 1991) telemark skiers (Trafton & Meyers, 1997) soccer players (Hassmen, 1995) wheelchair bound athletes (Patten, Harris, & Leatherman, 1994) and divers (DeMers, 1983).

Despite this overall POMS profile believed to be associated with desirable performances within populations comprised of elite athletes, the anger subscale of the POMS appears to have a more inconsistent association with performance. Evidence suggests that qualities predictive of successful performances may vary between sports, especially anger levels.

In a study of basketball players at the World Student Games, anger was the only mood measured by the POMS that was able to significantly predict performance (Lane & Chappell, 2001). Similar results were found for participants in karate. Those who won matches within a competition were more likely to exhibit high anger prior to the start of the competition (Terry & Slade, 1995).

Cockerill, Nevill, and Lyons (1991) found that in a population of elite male runners, those who placed the highest scored higher on the anger subscale of the POMS than poorer performers. This may be explained by the possible benefits derived from the excitement level experienced immediately prior to competition by those angrier athletes. Although beneficial in some sports, increased anger may not lead to higher quality performances in others.

DeMers (1983) found that anger was significantly lower for a group of more successful springboard divers than for a less successful group. It is possible that the

increased arousal that may accompany higher levels of anger are not as beneficial to competitive diving.

Not all studies regarding anger and performance demonstrate a significant relationship. Research on university level ice hockey players show that aggression significantly predicts performance, but a self-report of anger experienced had no significant correlation (McCarthy & Kelly, 1978).

Results from a study of a premier female Swedish soccer team were similar. There was no evidence that pre-performance POMS scores could accurately predict performance in a game (Hassmen & Blomstrand, 1995). However, this study used outcome as a measure of successful or unsuccessful performances, which may be faulty. It is possible that the participants performed well despite an unfavorable, or unsuccessful, outcome.

Anger in sport appears to have gone largely unstudied despite evidence that this emotional construct may have a significant relationship with performance in some sports. More research needs to be conducted to gain greater understanding of this important dynamic.

Although anger's relationships with various cognitive and somatic constructs have been examined extensively, it appears to have received a relatively small amount of research regarding its relationship with perfectionism. There have been several studies examining anger and similar personality attributes such as Type A Behavior Pattern (Forgays, Forgays, & Spielberger, 1997; Spielberger, Krasner, & Solomon, 1988), and absolutist thinking (Ostell, 1992), but perfectionism has not seemingly garnered the same scrutiny.

## REFERENCES

- Anshel, M. H., & Eom, H. (2002). Exploring the dimensions of perfectionism in sport. *International Journal of Sport Psychology, 34*, 255-271.
- Bredemeier, B., & Shields, D. (1986). Athletic aggression: An issue of contextual morality. *Sociology of Sport Journal, 3*, 15-28.
- Burns, D. (1980, November). The perfectionist's script for self-defeat. *Psychology Today, 34*-51.
- Cockerill, I.M., Nevill, A.M., & Lyons, N. (1991). Modelling mood states in athletic performance. *Journal of Sports Sciences, 9*, 205-212.
- Collins, S. W., & Hailey, B. J. (1989). The anger expression (AX) scale: Correlations with the State-Trait Personality Inventory and subscale intercorrelations. *Educational and Psychological Measurement, 49*, 447-455.
- Dalton, J. E., Blain, G. H., & Bezier, B. (1998). State-Trait Anger Expression Inventory scores of male sexual offenders. *International Journal of Offender Therapy & Comparative Criminology, 42*, 141-147.
- Dear, G. E., Watt, B. D., & Dockerill, J. (2003). Factor structure of the Spielberger Anger Expression Scales when used with Australian prisoners. *Psychological Reports, 92*, 617-620.
- DeMers, G.E. (1983, May-June). Emotional states of high-caliber divers. *Swimming Technique*, pp. 33-35.
- Doebler, T. C., Schick, C., Beck, B. L., & Astor-Stetson, E. (2000). Ego protection: The effects perfectionism and gender on acquired and claimed self-handicapping and self-esteem. *College Student Journal, 34*, 524-536.



- Enns, M. W., Cox, B. J., & Clara, I. (2002). Adaptive and maladaptive perfectionism: Developmental origins and association with depression proneness. *Personality and Individual Differences, 33*, 921-935.
- Flett, G. L., Hewitt, P. L., Endler, N. S., & Tassone, C. (1995). Perfectionism and components of state and trait anxiety. *Current Psychology, 13*, 326-350.
- Forgays, D. G., Forgays, D. K., & Spielberger, C. D. (1997). Factor structure of the state-trait anger expression inventory. *Journal of Personality Assessment, 69*, 497-507.
- Frost, R. O., Heimberg, R. G., Holt, C. S., Mattia, J. I., & Neubauer, A. L. (1993). A comparison of two measures of perfectionism. *Personality and Individual Differences, 14*, 119-126.
- Frost, R. O., & Henderson, K. J. (1991). Perfectionism and reactions to athletic competition. *Journal of Sport & Exercise Psychology, 13*, 323-355.
- Frost, R. O., Lahart, C. M., & Rosenblate, R. (1991). The development of perfectionism: A study of daughters and their parents. *Cognitive Therapy and Research, 15*, 469-489.
- Frost, R. O., & Marten, P. A. (1990). Perfectionism and the evaluative threat. *Cognitive Therapy and Research, 14*, 559-572.
- Frost, R. O., Marten, P. A., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research, 14*, 449-468.
- Garner, D. M., Olmsted, M. P., & Polivy, J. (1983). Development and validation of a multidimensional eating disorder inventory for anorexia nervosa and bulimia. *International Journal of Eating Disorders, 2*, 15-34.

- Gotwals, J. K., Dunn, J. G. H., & Wayment, H. A. (2003). An examination of perfectionism and self-esteem in intercollegiate athletes. *Journal of Sport Behavior, 26*, 17-38.
- Greene, A. F., Sears, S. F., & Clark, J. E. (1993). Anger and sports participation. *Psychological Reports, 72*, 523-529.
- Hall, H. K., Kerr, A. W., & Matthews, J. (1998). Precompetitive anxiety in sport: The contribution of achievement goals and perfectionism. *Journal of Sport & Exercise Psychology, 20*, 194-217.
- Hamachek, D. E. (1978). Psychodynamics of normal and neurotic perfectionism. *Psychology, 15*, 27-33.
- Hassmen, P., & Blomstrand, E. (1995). Mood state relationships and soccer team performance. *The Sport Psychologist, 9*, 297-308.
- Hewitt, P. L., Caelian, C. F., Flett, G. L., Sherry, S. B., Collins, L., & Flynn, C. A. (2002). Perfectionism in children: Associations with depression, anxiety, and anger. *Personality and Individual Differences, 32*, 1049-1061.
- Hewitt, P. L., & Flett, G. L. (1991). Perfectionism in the self and social contexts: Conceptualization, assessment, and association with psychopathology. *Journal of Personality and Social Psychology, 100*, 98-101.
- Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review, 94*, 319-340.
- Hill, R. W., Zrull, M. C., & Turlington, S. (1997). Perfectionism and interpersonal problems. *Journal of Personality Assessment, 69*, 81-103.

- Koivula, N., Hassmen, P., & Fallby, J. (2002). Self-esteem and perfectionism in elite athletes: Effects on competitive anxiety and self-confidence. *Personality and Individual Differences, 32*, 865-875.
- Landers, D. M., & Arent, S. M. (2001). Arousal-performance relationships. In J. M. Williams (Ed.), *Applied sport psychology: Personal growth to peak performance* (pp. 206-228). Mountain View, CA: Mayfield Publishing Company.
- Lane, A.M., & Chappell, R.C. (2001). Mood and performance relationships among players at the world student games basketball competition. *Journal of Sport Behavior, 24*, 182-196.
- Larson, M. R., & Langer, A. W. (1997). Defensive hostility and anger expression: Relationship to additional heart rate reactivity during active coping. *Psychophysiology, 34*, 177-184.
- Lombardi, D. N., Florentino, M. C., & Lombardi, A. J. (1998). Perfectionism and abnormal behavior. *The Journal of Individual Psychology, 54*, 61-71.
- Lutwak, N., Panish, J. B., Ferrari, J. R., & Razzino, B. E. (2001). Shame and guilt and their relationship to positive expectations and anger expressiveness. *Adolescence, 36*, 641-643.
- McCarthy, J.F., & Kelly, B.R. (1978). Aggression, performance variables, and anger self-report in ice hockey players. *The Journal of Psychology, 99*, 97-101.
- Onwuegbuzie, A. J. (2001). Academic procrastinators and perfectionistic tendencies among graduate students. *Journal of Social Behavior & Personality, 16*, 103-109.
- Ostell, A. (1992). Absolutist thinking and emotional problems. *Counseling Psychology Quarterly, 5*, 161-166.

- Owens, R. G., Haase, A., & Prapavessis, H. (2001). *Perfectionism, sport and mental health*. Paper presented at the annual Australian Conference of Science and Medicine in Sport, Perth.
- Owens, R. G., & Slade, P. D. (1987). Running and anorexia nervosa; an empirical study. *International Journal of Eating Disorders*, 6, 771-775.
- Parker, W. D., & Adkins, K. K. (1995). Perfectionism and the gifted. *Roeper Review*, 17(3), 13-16.
- Patten, C.A., Harris, W., & Leatherman, D. (1994). Psychological characteristics of elite wheelchair athletes: The iceberg profile. *Perceptual and Motor Skills*, 79, 1390.
- Powers, T. A., Zuroff, D. C., & Topciu, R. A. (2004). Covert and overt expressions of self-criticism and perfectionism and their relation to depression. *European Journal of Personality*, 18, 61-72.
- Rowley, A. J., Landers, D. M., Kyllö, L. B., & Etnier, J. L. (1995). Does the iceberg profile discriminate between successful and less successful athletes? A meta-analysis. *Journal of Sport & Exercise Psychology*, 17, 185-199.
- Saboonchi, F., & Lundh, L. (2003). Perfectionism, anger, somatic health, and positive affect. *Personality and Individual Differences*, 35, 1585-1599.
- Saddler, C. D., & Sacks, L. A. (1993). Multidimensional perfectionism and academic procrastination: Relationships with depression in university students. *Psychological Reports*, 73, 863-871.
- Schuler, P. A. (2000). Perfectionism and gifted adolescents. *Journal of Secondary Gifted Education*, 11, 183-196.

- Spielberger, C. D. (1996). *Manual for the State-Trait Anger Expression Inventory*.  
Odessa, FL: Psychological Assessment Resources.
- Spielberger, C. D. (1999). *Manual for the State-Trait Anger Expression Inventory-2*.  
Odessa, FL: Psychological Assessment Resources.
- Spielberger, C. D., Jacobs, G. H., Russell, S. F., & Crane, R. S. (1983). Assessment of  
anger: The State-Trait Anger-Scale, In J. N. Butcher & C. D. Spielberger (Eds.),  
*Advances in personality assessment* (Vol. 2. pp. 159-187). Hillsdale, NJ:  
Lawrence Erlbaum Associates, Inc.
- Spielberger, C. D., Johnson, E. H., Russell, S. F., Crane, R. J., Jacobs, G. A., & Worden,  
T. J. (1985). The experience and expression of anger: Construction and validation  
of an anger expression scale. In M. A. Chesney & R. H. Rosenma (Eds.), *Anger  
and hostility in cardiovascular and behavioral disorders* (pp. 5-30). New York:  
Hemisphere.
- Spielberger, C. D., Krasner, S. S., & Solomon, E. P. (1988). The experience, expression  
and control of anger. In M.P. Janisse (Ed.), *Health psychology; Individual  
differences and stress* (pp. 89-108). New York: Springer-Verlag.
- Spielberger, C. D., & Sydeman, S. J. (1994). State-Trait Anxiety Inventory and  
State-Trait Anger Expression Inventory. In M. E. Maruish (Ed.), *The use of  
psychological testing for treatment planning and outcome assessment*. (pp.  
292-321). Hillsdale, NJ: Erlbaum.
- Tangney, J. P., Wagner, P., Fletcher, C., & Gramzow, R. (1992). Shamed into anger? The  
relation of shame and guilt to anger and self-reported aggression. *Journal of  
Personality and Social Psychology*, 62, 669-675.

- Terry, P.C. & Slade, A. (1995). Discriminant effectiveness of psychological state measures in predicting performance outcome in karate competition. *Perceptual and Motor Skills*, 81, 275-286.
- Terry-Short, L. A., Owens, R. G., Slade, P. D., & Dewey, M. E. (1995). Positive and negative perfectionism. *Personality and Individual Differences*, 18, 663-668.
- Trafton, T.A., & Meyers, M.C. (1997). Psychological characteristics of the telemark skier. *Journal of Sport Behavior*, 20, 465-476.
- Weinberg, R. S., & Gould, D. (2003). *Foundations of Sport and Exercise Psychology* (3rd ed.). Champaign, IL: Human Kinetics.
- Widmeyer, W. N. (1984). Aggression-performance relationships in sport. In J. M. Silva & R. S. Weinberg (Eds.), *Psychological foundations of sport* (pp. 274-286). Champaign, IL: Human Kinetics.
- Zinsser, N., Bunker, L., & Williams, J. M. (2001). Cognitive techniques for building confidence and enhancing performance. In J. M. Williams (Ed.), *Applied sport psychology: Personal growth to peak performance* (pp. 284-311). Mountain View, CA: Mayfield Publishing Company.

## APPENDIX C

### Instrumentation

## State Anger Scale

A number of statements that people have used to describe how they feel are given below. Read the statements below and indicate how you generally feel *during a competition or practice* by placing the appropriate number next to each item.

- 1 = Not at all
- 2 = Somewhat
- 3 = Moderately so
- 4 = Very much so

- \_\_\_1. I am furious
- \_\_\_2. I feel irritated
- \_\_\_3. I feel angry
- \_\_\_4. I feel like yelling at somebody
- \_\_\_5. I feel like breaking things
- \_\_\_6. I am mad
- \_\_\_7. I feel like banging on the table
- \_\_\_8. I feel like hitting someone
- \_\_\_9. I feel like swearing
- \_\_\_10. I feel annoyed
- \_\_\_11. I feel like kicking somebody
- \_\_\_12. I feel like cursing out loud
- \_\_\_13. I feel like screaming
- \_\_\_14. I feel like pounding somebody
- \_\_\_15. I feel like shouting out loud



## Trait Anger Scale

A number of statements that people have used to describe themselves are given below. Read the statements below and indicate how you *generally* feel by placing the appropriate number next to each item.

- 1 = Almost never
- 2 = Sometimes
- 3 = Often
- 4 = Almost always

- \_\_\_16. I am quick tempered
- \_\_\_17. I have a fiery temper
- \_\_\_18. I am a hotheaded person
- \_\_\_19. I get angry when slowed down by others' mistakes
- \_\_\_20. I feel annoyed when not given recognition for doing good work
- \_\_\_21. I fly off the handle
- \_\_\_22. I say nasty things when mad
- \_\_\_23. It makes me furious when I am criticized in front of others
- \_\_\_24. I feel like hitting someone when frustrated
- \_\_\_25. I feel infuriated when I do a good job and get a poor evaluation

## Anger Expression Inventory

A number of statements that people have used to describe themselves are given below. Read the statements below and indicate how you *generally* react or behave when you feel angry or furious by placing the appropriate number next to each item.

- 1 = Almost never
- 2 = Sometimes
- 3 = Often
- 4 = Almost always

- \_\_\_26. I control my temper
- \_\_\_27. I express my anger
- \_\_\_28. I take a deep breath and relax
- \_\_\_29. I keep things in
- \_\_\_30. I am patient with others
- \_\_\_31. If someone is annoying, I am apt to tell him or her
- \_\_\_32. I try to calm down as soon as possible
- \_\_\_33. I pout or sulk
- \_\_\_34. I control urges to express angry feelings
- \_\_\_35. I lose my temper
- \_\_\_36. I try to simmer down
- \_\_\_37. I withdraw from people
- \_\_\_38. I keep cool
- \_\_\_39. I make sarcastic remarks to others
- \_\_\_40. I try to soothe angry feelings
- \_\_\_41. I boil inside, but don't show it
- \_\_\_42. I control my behavior

- \_\_\_43. I do things like slam doors
- \_\_\_44. I endeavor to become calm again
- \_\_\_45. I tend to harbor grudges that I don't tell anyone about
- \_\_\_46. I can stop from losing my temper
- \_\_\_47. I argue with others
- \_\_\_48. I reduce my anger as soon as possible
- \_\_\_49. I am secretly quite critical of others
- \_\_\_50. I try to be tolerant and understanding
- \_\_\_51. I strike out at whatever is infuriating
- \_\_\_52. I do something relaxing to calm down
- \_\_\_53. I am angrier than willing to admit
- \_\_\_54. I control my angry feelings
- \_\_\_55. I say nasty things
- \_\_\_56. I try to relax
- \_\_\_57. I get irritated a great deal more than people are aware of

Overall, the amount of anger that I experience during competition or practice affects my performance (circle one):

Negatively -3 -2 -1 0 1 2 3 Positively

### Frost-Multidimensional Perfectionism Scale

Please write the number that best corresponds to your agreement with each statement below. Use the following rating system:

Strongly disagree 1 2 3 4 5 Strongly agree

- \_\_\_1. My parents set very high standards for me.
- \_\_\_2. Organization is very important to me.
- \_\_\_3. As a child, I was punished for doing things less than perfectly.
- \_\_\_4. If I do not set the highest standards for myself, I am likely to end up a second rate person.
- \_\_\_5. My parents never tried to understand my mistakes.
- \_\_\_6. It is important to me that I be thoroughly competent in everything I do.
- \_\_\_7. I am a neat person.
- \_\_\_8. I try to be an organized person.
- \_\_\_9. If I fail at work/school, I am a failure as a person.
- \_\_\_10. I should be upset if I make a mistake.
- \_\_\_11. My parents wanted me to be the best at everything.
- \_\_\_12. I set higher goals than most people.
- \_\_\_13. If someone does a task at work/school better than I, then I feel like I failed the whole task.
- \_\_\_14. If I fail partly, it is as bad as being a complete failure.
- \_\_\_15. Only outstanding performance is good enough in my family.
- \_\_\_16. I am very good at focusing my efforts on attaining a goal.

- \_\_\_17. Even when I do something very carefully, I often feel that it is not quite right.
- \_\_\_18. I hate being less than best at things.
- \_\_\_19. I have extremely high goals.
- \_\_\_20. My parents have expected excellence from me.
- \_\_\_21. People will probably think less of me if I make a mistake.
- \_\_\_22. I never felt like I could meet my parents' expectations.
- \_\_\_23. If I do not do as well as other people it means that I am an inferior human being.
- \_\_\_24. Other people seem to accept lower standards from themselves than I do.
- \_\_\_25. If I do not do well all the time, people will not respect me.
- \_\_\_26. My parents have always had higher expectations for my future than I have.
- \_\_\_27. I try to be a neat person.
- \_\_\_28. I usually have doubts about the simple everyday things I do.
- \_\_\_29. Neatness is very important to me.

- \_\_\_30. I expect higher performance in my daily tasks than most people.
- \_\_\_31. I am an organized person.
- \_\_\_32. I tend to get behind in my work because I repeat things over and over.
- \_\_\_33. It takes me a long time to do something “right.”
- \_\_\_34. The fewer mistakes I make, the more people will like me.
- \_\_\_35. I never felt like I could meet my parents’ standards.

Overall, the amount of perfectionism that I experience during competition or practice affects my performance (circle one):

Negatively -3 -2 -1 0 1 2 3 Positively

## APPENDIX D

Cover Letter



Fellow diving coaches;

My name is Jake Sinclair and I am the head diving coach at Georgia Southern University. I have tried to contact as many of you as possible through email or by phone, so I hope the information in this packet is not a complete surprise to you. Regardless as to whether or not I have spoken with you prior to you receiving this packet, please read all of the below information.

I am currently finishing my Masters degree in Sport Psychology, and the contents of this packet are the questionnaires that I am using to complete my Masters Thesis entitled "An Exploration of State and Trait Anger, Anger Expression, and Perfectionism in Collegiate Springboard Divers." The purpose of this study is to examine the relationships between various aspects of anger and the dimensions of perfectionism. If a greater understanding of how perfectionism may be a source of various dimensions of anger, then athletes, coaches, and sport psychologists may be better able to alter perfectionistic attitudes and gain greater control over the different aspects of anger and anger expression. This may potentially lead to a greater experience in sport and increases in the quality of performance.

My goal is to have at least 100 collegiate springboard divers complete the enclosed questionnaires and use that information to further the study of perfectionism within sport, specifically within the realm of springboard diving. As you can imagine, with most collegiate teams having at most 6-8 divers, it may be very difficult to collect as many questionnaires as I need, but with the cooperation of people like you, I believe it can be done.

If you have any divers that a.) are 18-26 years old, b.) have competed in diving for at least the last two years, and c.) and have averaged at least six NCAA collegiate and/or U.S. Diving sanctioned meets per year, I am requesting that someone other than you, their coach, have them complete the enclosed questionnaires. This may be any person not directly related to the diving team. To completely fill out the questionnaires, it should take between 10-20 minutes. The divers may use pen or pencil.

It is the responsibility of the test administrator to read the page attached to this letter after handing out the questionnaires. On this page are the instructions for completing the forms.

I realize that seasons are rapidly coming to a close, but it would be a great help to have these forms completed and returned in the provided self-addressed stamped envelope no later than May 30th, 2005. If you would like to receive a copy of the thesis or summarized manuscript upon completion of the study, please email me using the



information below. Again, thank you so much for helping me, and for contributing to the knowledge of springboard diving.

Jake Sinclair  
Georgia Southern University Diving  
[jacob\\_s\\_sinclair@georgiasouthern.edu](mailto:jacob_s_sinclair@georgiasouthern.edu)

## APPENDIX E

### Survey Administration Instructions



To be read by questionnaire administrator:

Thank you very much for participating in this study. It is the hope of this research that information may be gathered to contribute to the world of diving, and to sport in general. The following surveys should take between 10 and 20 minutes to complete.

Please read *every* item and answer it honestly. The more serious you take the survey, the greater the potential for useful results to be gained, and knowledge to be contributed to the sport of diving. At the top of each page, please circle whether you are male or female.

In order to qualify to participate in this study, you must be between 18 and 26 years of age, have been a competitive diver for at least two years, competing in at least six NCAA collegiate competitions, and/or U.S. Diving sanctioned competitions per year. If you do not meet these requirements, please do not complete the survey.

Attached to the questionnaires is an informed consent page. Please read this page and tear it off if you would like to keep it for your records. Again, I appreciate your time and your help with this study.

Jake Sinclair  
Primary Investigator  
Georgia Southern University Diving Coach

APPENDIX F

Informed Consent Form



*COLLEGE OF HEALTH AND HUMAN SCIENCES*

---

*JIANN-PING HSU SCHOOL OF PUBLIC HEALTH*

---

**“An Exploration of State and Trait Anger, Anger Expression and Perfectionism in Collegiate Springboard Divers”**

## **INFORMED CONSENT**

The purpose of this research is to examine how anger, anger expression, and perfectionism are related in the community of springboard divers. It is the hope of the primary investigator that a greater understanding of how anger and perfectionism are experienced in diving will lead to a broader perspective on how these constructs influence performance.

If you are 18-26 years old, have competed in diving for at least two years, averaging at least six competitions (NCAA collegiate or United States Diving sanctioned) per year, you are eligible to participate in this study. If you meet these qualifications and would like to participate in this study, you will be asked to complete two questionnaires. Completion of these surveys should take between 10 and 20 minutes. Please answer *all* items honestly.

There are no known risks in participating in this study and your participation is voluntary. You may end your participation at any time by notifying the administrator or by not returning the forms. Participation in this study is anonymous and every step will be taken to ensure confidentiality. Completion and return of these questionnaires implies that you agree to participate and your data may be used in this research.

If you have any questions please contact the primary investigator Jacob S. Sinclair at (618) 203-9576 or [jacob\\_s\\_sinclair@georgiasouthern.edu](mailto:jacob_s_sinclair@georgiasouthern.edu). You may also contact the faculty advisor Dr. Kevin L. Burke at (912) 681-5267 or [kevburke@georgiasouthern.edu](mailto:kevburke@georgiasouthern.edu). To contact the Office or Research Services and Sponsored Programs for answers to questions regarding your rights as a research participant you may email [oversight@georgiasouthern.edu](mailto:oversight@georgiasouthern.edu) or call (912) 486-7758.

## Biographical Summary

Jacob Stoner Sinclair is the youngest son of Scott and Debra Sinclair from Gillette, Wyoming. He attended Southern Illinois University-Carbondale and competed as a diver on the men's varsity swimming and diving team. While on the team, he met his future wife, Breanne Waiva Hay, who was also a diver. In May of 2003, Jacob graduated summa cum laude with a Bachelor of Arts degree in Psychology and a Bachelor of Science degree in Social Work, while earning a minor in Spanish. A week later, he was married to Breanne. During his two years attending Georgia Southern University, he was the Head Diving Coach for the women's varsity swimming and diving team. He also taught numerous classes through the Jiann-Ping Hsu School of Public Health Physical Activities Program as part of his assistantship. He graduated in 2005 and was hired as the Regional Director of the Statesboro branch for Someone Cares Counseling Services, Inc. He plans to eventually pursue his doctorate in clinical or counseling psychology.