1984

Tool for measuring self-preserved "pressure" in athletes

Sherman, Cheyne A.

A TOOL FOR MEASURING SELF-PERCEIVED "PRESSURE" IN ATHLETES

* * * * *

A Thesis

Presented to

the Faculty of University Schools

Lakehead University

* * * * *

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

in the

Theory of Coaching

* * * * *

by

© Cheyne A. Sherman

1984

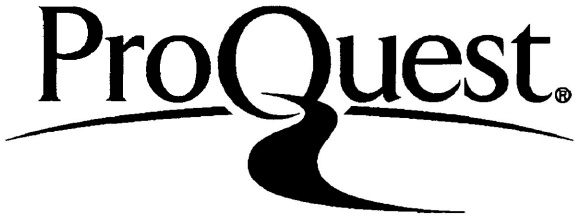

TABLE OF CONTENTS

PAGE

Chapter

ABSTRACT

Title of Thesis: A Tool for Measuring Self-Perceived "Pressure" in Athletes.

Cheyne A. Sherman: Master of Science in the Theory of Coaching, 1984.

Thesis Advisor: Dr. B. S. Rushall
Professor
School of Physical Education and Outdoor Recreation
Lakehead University

The purpose of this study was to develop a practical assessment tool for measuring self-perceived "pressure", a situational variant in athletes. A checklist was developed and in its final form contained 16 items. The checklist was shown to be a valid, reliable, readable, and standardized assessment tool. Responses to the scale used in the checklist were weighted to reflect the levels of both positive (facilitatory) or negative (inhibitory) effects of internal and external sources of pressure. The developed checklist was administered to four Olympic athletes during competitions and provoked honest, accurate responding while demonstrating the sensitivity to "pressure". The checklist was shown to be capable of providing immediate feedback to coaches concerning athletes' perceptions of pressure prior to performance. The checklist provides scores which can be quickly interpreted by the coach as a measure of the levels and sources of pressure perceived by athletes.

ACKNOWLEDGEMENTS

A sincere thank-you is extended to the expert panel of judges who took the time to evaluate the checklist developed in this study: Dr. R. Alderman, Dr. G. Garvie, Dr. J. Jamieson, Dr. L. Leith, Dr. T. Orlick, Mr. D. Talbot, and Dr. N. Wood.

A special thank-you also is extended to the athletes who participated in this study: the Canadian Olympic Ski Jump Team; the Thunderbolts Swim Club and coach Mr. B. Humby.

Mere words cannot sufficiently express my feelings of gratitude for my wife Pamela, whose loving assistance, encouragement, and understanding made this thesis a reality.

The expertise, advice, guidance, and encouragement of Dr. Brent Rushall are recognized and deeply appreciated. His assistance throughout all stages of this thesis was invaluable.

LIST OF FIGURES

LIST OF TABLES

CHAPTER I

INTRODUCTION

Purpose

The purpose of this study was to develop a practical assessment tool for measuring self-perceived "pressure", a situational variant in athletes.

Significance of the Study

Successful athletic performance is a combination of many factors. Physiology, biomechanics and psychology are three areas that scientists have been researching to improve athletic performance. Many studies have been established in the physiological and biomechanical areas aimed at improving training techniques for and movement quality in the performer. However, the need for more psychological research, particularly at the elite athletic level, is evident. Sport psychology has been recognized as an essential factor in attaining optimal performance levels and this is apparent by the increased demand of psychological staff at national and international sporting venues.

This study endeavoured to construct a new psychological tool for use by coaches and staff in sporting environments. The scale is intended to measure and predict an athlete's perception of

"pressure" prior to or during competition. The advance knowledge provided by the test could assist coaches in: (1) obtaining immediate feedback about the levels of "pressure" on athletes, (2) gaining a direct indication of the sources of "pressure" on athletes, (3) devising coping strategies for athletes, if necessary, to handle "pressure" and, (4) coordinating regular procedures to minimize unnecessary "pressure" prior to and during competitions. In addition to these uses the test had to be of a form that is simple for coaches to administer and evaluate.

An important advantage of this psychological scale is its immediate relevant information for coaches concerning athletes prior to competition. The pre-competitive information, if deemed important enough by the coach, would then be used to design coping strategies (Jacobs, 1982; Rushall, 1979a, 1984) to aid in facilitating maximum competitive performances.

The production of a scientific tool that lends itself to measuring self-perceived "pressure" in the athletic environment would be a valuable addition to the psychological assessment procedures presently available to coaches. The tool that was developed could be used for future research in a wide variety of sporting venues with regard to analyzing precompetition states and conditions of athletes.

In summary, this thesis attempted to construct a valid and reliable tool to measure self-perceived "pressure" prior to competitive performance. "Pressure" is defined as a significant psychological variable that can drastically affect performance

although an athlete has been sufficiently physiologically prepared.

The tool was designed to measure the situational factors that occur before a competition. This would indicate to coaches if there are sources of "pressure" or stress which have not been controlled for or anticipated prior to competition. The instrument could also allow a coach to take corrective actions with the athlete to cope with or remove any unanticipated event. The consequence of these interventions is that athletes should be able to enter a contest with consistent, prepared and controlled psychological preparation with respect to attaining maximum performance.

The justification for this thesis lies in the lack of valid scientific research in the area of immediate precompetitive psychology. The results of this study may be of use to both athletes and coaches for improving athletic performance.

Since this investigator is a coach, there was a strong personal interest in measuring the precompetitive self-perceived "pressure" of athletes. Implications of this study may improve the coaching skills of this researcher.

Delimitations

This thesis was concerned with the measurement of self-perceived pressure immediately prior to a competitive athletic performance. The measuring tool took the form of a pencil and paper checklist suitable for instant analysis in the practical situation prior to an athletic performance.

The measuring tool had to be small and manageable so as not

to disrupt the competition preparation of athletes. An endeavour was made to ensure that the completion time of the test was kept to a minimum.

The content structure and nature of the tool had to suit a wide variety of age groups. It was intended that subjects of at least 12 years of age would be capable of successfully completing the checklist.

Limitations

i) The content of the research instrument measured the construct "pressure".

ii) The tool was reliable if the reliability coefficient exceeded $\underline{r} = .8$.

iii) The content validity of the checklist was established through a) the derivation of items from a wide variety of sources including previous life stress inventories and related literature; and b) the assessment of initial items by an expert panel of judges.

iv) The research instrument was based on the technique of self-reporting.

Definitions

Pressure was defined as an inevitable mental variable perceived by an individual and capable of drastically affecting athletic performance. This significant psychological variable may be viewed as having a positive or negative influence. Pressure is affected by situational factors and not construed to be a permanent or trait feature of one's make-up.

Internal pressure was defined as an additional burden an individual imposed upon him/herself that could alter the thinking, feeling, or belief that a certain task ought to be accomplished. This pressure was derived from one's own inner thoughts to direct behavior.

External pressure was defined as pressure stemming from a person's reaction to another person, group of persons, or external event.

Positive pressure was referred to as self-perceived feeling that the source of pressure assisted an athlete to perform well or in a desirable manner.

Negative pressure was referred to as self-perceived feeling that the source of pressure bothered the athlete or forced him/her to perform in an undesirable manner.

CHAPTER II

REVIEW OF LITERATURE

Pressure

The concept. Murray (1938) emphasized the importance of effective or significant determinants of behavior in the external environment of the individual and related this to his concept of "press". He felt that a "press" was a property or attribute of an environmental object or person which facilitates or impedes the efforts of an individual to reach his/her goal (in Alderman, 1974).

Barrett (1960) suggested that "pressure" connoted a vague feeling of tension or discomfort from which most people would like to be released. He also implied that "pressure" was unavoidable and, in fact, an inevitable force to which an individual must adjust. He stated:

> Psychological exploration of pressure reveals that it is not impersonal but a feeling within one's emotional make up. It is a mental process that reflects itself in many different ways in many different people. (Barrett, 1969, p. 9)

While there is very little literature which relates "pressure" measurement in athletic performance, there are some points-of-view extant which do bear directly upon the awareness of

"pressure" in sport. Vanek (1974) reported of quality practice for athletes in overstress situations. He suggested ways for athletes to cope with the distractions and pressures exerted by friendly and unfriendly crowd noises. Johnson (1976) suggested adults, particularly parents and coaches, can exert too much "psychological pressure" on young athletes. Tutko and Tosi (1976) related a combination of intrinsic, social, and personal pressures existing in sport that every athlete must deal with at some time during competition. The rapid physical growth during the adolescence phase has been related with psychological pressures tied into the athlete's body image (Hogg, 1980).

McCafferty (1973) suggested that "external pressure" rather than a dislike of sport or the rigors of intensive training was the main reason for the high drop-out rate of swimmers. He stated, "External pressure from parents and coaches, and 'failure to perform to expectations' were the reasons cited for age group swimmers discontinuing training" (McCafferty, 1973, p. 54).

Hanna (1979) attempted to define problems related to stress in athletic competition. He placed an emphasis on the athlete's internal vulnerability to the stress of competition and the need for athletes to be able to cope with stress in the athletic environment. "Outside pressure" was also mentioned and how this could, "usually worsen a situation making the athlete feel bad in the moral sense, thus increasing guilt, anxiety and a sense of failure" (Hanna, 1979, p. 202).

Jacobs (1982) mentioned the coaches' frustration due to different types of stressors and pressures placed on athletes. He stated, "Perhaps the most frustrating dilemma that confronts a coach is the athlete who performs up to his ability in practice, but falls apart under the pressure or 'chokes' in a game situation" (Jacobs, 1982, p. 4). The possibility of "pressure" being related to stress and anxiety was also discussed by Alderman (1974), Elliott (1980), and Rushall (1982).

It was evident from the literature that "pressure" is a significant factor capable of drastically affecting athletic performance even though prior training has reached desired levels. This "pressure" was defined as an inevitable mental variable perceived by an individual, caused from many sources, and capable of change depending on the situation.

Stress, Pressure, and Performance

Selye (1974) defined stress as, "the nonspecific response of the body to any demand made upon it" (p. 27). Rather than referring to stress as the force acting on the animal, he used the term to describe the response made to such a force. The force or stress-producing factor termed the "stressor" (Selye, 1974).

Selye (1974) associated stress with both pleasant and unpleasant experiences. Excess in either experience along the continuum would result in an increase in stress. Selye (1974) contended that stress must not and cannot be avoided but must be met efficiently and enjoyed by learning about its mechanism.

Selye (1977) referred to pleasant or favourable stress as "eustress". Unfavourable or unpleasant stress was termed "distress".

> Even such happy sensations as great joy or ecstasy cause stress, for we must adapt to any demands made upon us, be they favourable or unfavourable. This kind of good stress is known as 'eustress'. Distress is much more likely than eustress to cause disease, although there is evidence that both can be harmful under certain circumstances. (Selye, 1977, p. 86)

Sarason, Johnson, and Siegel (1978) suggested stress should be actually measured in two dimensions. They listed a number of stressful events in an assessment of life change inventory and made allowances for individuals to perceive these events as being desirable (positive) or undesirable (negative). Vinokur and Selzer (1975) also viewed "life stress" as involving many events that are perceived by an individual as having positive or negative effects.

More recently Archer (1979) defined stress as, "the prolonged inability to remove a source of potential danger, leading to activation of systems for coping with danger beyong their range of maximal efficiency" (p. 3). He referred to behavioral changes due to stressors, which involved a form of behavioral coping. This was likely to minimize the effect of the stress-inducing situation and hence minimize the stress reaction.

Stress associated with athletic competition has been described as an overload or underload of demands made on the athlete (Martens, 1977). Stress in this area has also been a widely researched topic. Kroll (1981) suggested a number of stress factors in

athletes before, during, and after competition. Rushall (1982) listed a number of precompetition day stress indicators and a number of tacts for handling unusual stressors. Zaichkowsky and Sime (1982) analyzed competitive stress and applied competitive stress management. Cratty (1981) mentioned sporting groups under stress and their reactions. Elliott (1980) suggested that parental expectations often played a large role in children's stress in sport. The immune system also turned out to be vulnerable during competitive stress (Surkina, 1982). Catecholamine excretion comparisons have been made to discover any reflection of added mental stress of athletic competition on physical effort in athletes (Pierce, Kupprat, and Harry, 1976). Neil (1982) reported on superstition in sport. He stated, "Superstition appears to be a natural psychological mechanism helping the athlete to cope with the stress of the competitive situations and perform at his/her best under pressure" (Neil, 1982, p. 121). Jacobs (1982) suggested a wide variety of situations that may exist which can cause a certain amount of stress for the athlete. He referred to these situations as "situational stressors" and gave examples which vary among athletes.

Pressure also has been described in the literature as a cause of stress in athletic competition. Rushall (1982) referred to "home-town pressures" and suggested ways for handling these stressors. Hanna (1979) gave examples of self-perceived pressures in competition and related methods of coping with stress due to these pressures. Vanek (1974) and Vanek & Cratty (1970) also

described ways of "model training" and quality practice for athletes to build a resistance against different kinds of stresses and pressures in competition. It was interesting to note that Vanek's (1974) principles were derived from Selye's (1956) theories of adaption tc stress. Vanek (1974) tried to minimize the differences in stress between training and competition. The multidimensionality of stress and pressure is evidenced by the variety of explanations and descriptions in the literature.

The Individual and Pressure

The literature suggested a number of pressures including both external and internal sources, that can affect an individual's behavior. Barrett (1960) stated that internal pressure was derived from one's own inner thoughts to direct behavior, and termed this "mynetic pressure". External pressure stemmed from a person's reaction to another person or group of persons. Barrett (1960) termed this "direactive pressure" to specify the interacting nature of this behavioral situation.

> Mynetic and direactive behavior obviously, at times, fuse into one another. However, it is possible to distinguish in many situations with some degree of clarity, which one plays the primary role for the individual. (Barrett, 1960, p. 12)

In the athletic environment an individual is exposed to a number of both internal and external pressures. External pressures on the athlete have been shown to arise from: parents and coaches (Elliott, 1980; Hanna, 1979; Jacobs, 1982; Johnson, 1976; McCafferty, 1973; Rushall, 1982; Tutko & Bruns, 1976); friends

and teammates (Jacobs, 1982; McCafferty, 1973); crowds and spectators (Jacobs, 1982; Rushall, 1981, 1982; Vanek, 1974; Vanek & Cratty, 1970); unfamiliar environments (Blanz, 1973; Kaufmann & Raaheim, 1973); opponents (Jacobs, 1982; McCafferty, 1973; Rushall, 1982); media and officials (Rushall, 1982).

Internal pressures on the athlete have been shown to arise from: expectancy of success or winning (Alderman, 1974; Barrett, 1960; McCafferty, 1973; Tutko & Bruns, 1976); game or competition importance (Jacobs, 1982); self-esteem or self-image (Hanna, 1979; Hogg, 1980; Tutko & Tosi, 1979); self-limits, self-doubt or uncertainty (Alderman & Hogg, 1978; Barrett, 1960; Tutko & Tosi, 1976); popularity (Tutko & Tosi, 1976).

In summary, internal and external constructs within sport have been described in the literature. Stauss (1975) suggested a method of measuring internal and external "locus of control" within sporting environments. Internal and external attentional focus for athletes has also been researched (Jacobs, 1982; Nideffer, 1976). It is also evident that both internal and external sources of pressure exist prior to and during athletic competition. The amount of pressure present in any one situation depends on the psychological meaning that pressure has for each individual (Barrett, 1960).

> Some individuals may be under more pressure than others due to the importance and meaning of a situation. An individual operates not only under the normal stress of a certain task but imposes upon himself the additional

> burden of the way he thinks, feels, or believes it ought to be accomplished. (Barrett, 1960, p. 14)

The associated stress, due to self-perceived pressures, may overload or underload demands made on the athlete (Martens, 1977). The stress may also be perceived as positive (pleasant, desirable) or negative (unpleasant, undesirable) (Sarason et al., 1978; Selye, 1974; Vinokur & Selzer, 1975).

Sport Internal - External Scales

Stauss (1975) developed a Sport Internal - External Scale (Sport I-E Scale) which has provided useful information in athletic competition (Rushall, 1979b). The Sport I-E Scale was a modified version of Rotter's (1966) Internal - External Locus of Control Scale. Rotter's scale was concerned with the source of reinforcement, which was designated as internal or external. An internal source of reinforcement referred to a belief by an individual that events in life are a consequence of his/her own skill and/or actions. An external source of reinforcement referred conversely, to a belief by an individual that life's events are unrelated to one's actions and instead are attributed to luck, fate or chance (Rotter, Seeman & Liverant, 1962). Stauss (1975) modified Rotter's (1966) I-E Scale so as to evaluate athletes with a specific instrument to measure internal/external levels of reinforcement in a sporting context.

Rushall (1979b) stated that the Sport I-E Scale indicated individuals who needed external team commitments and pressures,

to produce maximum performances. He suggested that situations can be constructed to produce elevations in performance for externally controlled individuals.

In measuring self-perceived pressure in athletes, it is apparent that both internal and external sources of pressure should be differentiated, since individuals possess diversity and heterogeneity with regard to their "locus of control" or source of reinforcement. This review has previously mentioned a number of internal and external sources of pressure for athletes that could be itemized in a questionnaire.

The Measurement of Self-Perceived Pressure

The scale developed in this thesis was not of an original design. The basic format was borrowed from a current life stress measure and modified to measure self-perceived pressure within athletes in competitive environments. Thus the development of the pressure scale was not based entirely on theory.

Sarason, Johnson, and Siegel (1978) described the development of a new instrument, the Life Experiences Survey (LES), for the measurement of life changes. This instrument was designed to eliminate the shortcomings of previous life stress measures. Sarason et al. mentioned other instruments such as the Schedule of Recent Experiences (SRE; Holmes & Rahe, 1967) and the modified version of the SRE (Vinokur & Selzer, 1975). They concluded that life stress measurements should possess three characteristics:

1) a list of events experienced with at least some degree of frequency in the population being investigated;
2) an allowance for ratings, by the respondents themselves, of the desirability or undesirability of events;
3) individualized ratings of the personal impact of the events experiences.

The Life Experiences Survey was a 57 item self-report measure that allowed respondents to indicate ratings on a seven-point scale. The scale ranged from extremely negative (-3) to extremely positive (+3). The scale also allowed for a zero rating, where no impact of a particular stress could be recorded by the respondent. Summing the impact ratings of those events designated as positive, by a subject, provided a positive change score. A negative change score was derived by summing the impact rating of those events experienced as negative by a subject. Adding these two values a total change score was obtained, representing the total amount of rated change experienced by a subject. This instrument proved to be moderately reliable, especially when the negative and total change scores were considered (Sarason et al., 1978).

The LES was correlated with many other relevant tests and it was concluded that the negative life change score was significantly related to a number of stress-related dependent measures.

A correlation between the LES and the Internal-External Locus of Control Scale (Rotter, 1966) was obtained. It was stated that:

> Individuals who report having experienced high levels of negative change appear to be more externally oriented, perceiving themselves as being less capable of exerting control over reinforcement contingencies in their environment. (Sarason et al., 1978, p. 938)

Sarason et al. (1978) concluded that the LES allowed for the individualized rating of the impact of stressful events plus the availability of separate measures of positive and negative change. "This makes it essentially appropriate for use in future research concerning how people deal with the stresses and strains of modern life" (Sarason et al., 1978, p. 942).

Summary

There have been very few specific research efforts devoted to the comprehension of self-perceived "pressures" of athletes prior to performance. However, the stress related psychological problems, due to these pressures, have been objectively and subjectively researched.

When developing a new measuring instrument it is of utmost importance to ensure that the tool measures what it intends to measure. In addition to this, the questionnaire, in its completed form, must be both reliable and valid if it is to be of any value as a measuring instrument. Therefore efforts must be directed towards controlling for those extraneous factors which tend to reflect characteristics other than those being evaluated.

It was the intention of this researcher to provide an accurate estimate of an athlete's self-perceived "pressures" prior to competition. These "pressures" will be due to either internal or

external stimuli and will be perceived as having a positive influence (helping performance), negative influence (opposing performance), or no influence on performance. The results of the pre-competition questionnaire would be quickly compared to previous results. If necessary the coach or associated staff may employ psychological interventions during on-site preparations. It should be noted that psychological intervention, at this stage, cannot assure resultant performance successes or enhancements. However, it can serve as a "last-ditch" effort to remove inadequacies which are highly correlated with performance decrements (Rushall, 1981).

Finally, the self-perceived pressure checklist, like many other already valid and reliable tools currently being employed in athletic competitions, should be used regularly with properly guided psychological training that athletes have experienced previously.

> Pre-competitive and competitive psychological intervention achieves maximum effectiveness only when the techniques used are extensions of, or complimentary to, ongoing psychological training. (Rushall, 1981, p. 7)

CHAPTER III

METHODS AND PROCEDURES

Item Pool and Definitions

The derivation and definition of items with respect to the construct "pressure" were established through a variety of sources. At least 10 related books and journals were reviewed comprehensively. A number of pertinent stress and anxiety assessment tools were also examined. These included such inventories as: Sport Competition Anxiety Test (Martens, 1977); Pre-competition Psychological Checklist (Rushall, 1979a); Schedule of Recent Experiences (Holmes & Rahe, 1967); and Life Experiences Survey (Sarason et al., 1978). Consultation and discussion with a number of coaches and also this author's personal observations influenced, assisted, and supported the formulation of the questionnaire.

Item Construction

The information gathered from the previously mentioned sources was used in developing 16 single items. Nine supposedly relevent internal and seven external sources of pressure and their respective definitions were itemized. The 16 items were deemed as an appropriate number in keeping with the time constraints

and objectivity of the test. The items were then reduced to respective questions or cues (See Appendix B).

The inventory also included an additional response space for any other pressure sources not listed in the 16 items. This would allow subjects to list all the self-perceived pressure sources influencing impending performance.

A general description of "pressure" preceded the list of items and definitions. An explanation of positive and negative pressure was also developed to assist respondents in the understanding of the inventory (See Appendix A).

Measurement Technique

The seven point scale used in the Life Experiences Survey (Sarason et al., 1978) was adapted for indicators of either a positive, negative, or zero response to pressure. The respondee was forced to select one of the response alternatives for each item. The seven alternative responses included: 1) very negative (-3), 2) negative (-2), 3) slightly negative (-1), 4) no influence (0), 5) slightly positive (+1), 6) positive (+2), 7) very positive (+3). The response alternatives were numbered in this manner for all the items, so that on completion of the inventory it was possible to easily total all the scores. The selection of a scale with seven possible responses allowed respondees considerable discriminative ability in assessing the amount of self-perceived pressure prior to athletic competition.

The values for internal and external pressure sources were made possible by totalling the absolute scores for the respective

items. Four types of scores were obtained from each inventory: 1) negative pressure total score, 2) positive pressure total score, 3) internal pressure total score, and 4) external pressure total score.

Readability

A readability check was performed to ensure that the meaning of each item was understandable by the respondents. This reduced the possibility of any item misinterpretation. Male and female 12 year old students (n=45) were given the inventory with instructions to underline words which were not understood. This age group represented the low end target group of the potential testing population. The readability test was a means of checking the clarity of communication between the respondents and the inventory.

Reliability

The reliability of the inventory was determined through a test-retest procedure. The test-retest sample involved athletes (n=20) of both sexes from the Thunderbolts Swimming Club of Thunder Bay, Canada. Since this inventory is situational in its use and designation, it was important to retest shortly after the original testing. The test was given to the athletes on arrival at training and retested after they had changed or participated in a short preliminary training warm-up. The retest (See Appendix C) contained exactly the same information as the original test, except the 16 items were reordered. This was

designed to reduce the possibility of unknown reactivity due to recall. Retests were also given on two other time intervals - one day, and two weeks later.

Positive, negative, internal, and external pressure scores from the tests were then totalled and correlation coefficients were calculated for all the scores. If the coefficients did not exceed a Pearson's Product Moment Correlation Coefficient of $\underline{r} = .80$, then each item was to be evaluated for reliability. Any single item failing to reach a correlation coefficient of $\underline{r} = .80$ was to be deleted from the inventory. This would reduce the item pool to reliable test items.

Validity

The content validity of the constructed questionnaire rested on empirically validated assessments by competent judges, (See Appendix D). The judges were selected with respect to their familiarity with sport, coaching, and their experience with the psychological assessment of stress. The judges received a copy of the inventory with a letter (See Appendix E) instructing each to assess the content validity of the questionnaire with respect to three criteria: 1) did the questionnaire measure the construct "pressure", 2) were the items and definitions adequate, and 3) was the measurement procedure adequate. The inventory was to be altered according to the recommendations of the judges. This was the process for determining the validity of the author established items. The fundamental purpose of this section was

to provide evidence that the inventory measured what it was purported to measure.

Standardization

Instructions were formed throughout the development of the test and refined with each administration to produce an understandable set of guidelines for administration.

Summary

This set of procedures was determined so that the developed tool would have the following characteristics.

1. It would be valid.
2. It would be reliable.
3. It would be readable by athletes aged 12 years and older.
4. It would be sensitive for measuring the self-perceived pressure of athletes prior to competition.
5. It would be standardized in its administration.
6. It would be simple for coaches to evaluate.
7. It would be small and manageable so as not to disrupt the competition preparation of athletes.

The production of a tool with these characteristics would be a valuable addition to coaching science, in that a new method of assessing pre-competitive "pressure" perceived by athletes, would have been developed.

CHAPTER IV

DISCUSSION AND RESULTS

Item Pool

The principal reason for developing this tool was to provide coaches with information concerning the sources and levels of "pressure" perceived by athletes, prior to competition. With this intention, information was gathered from: 1) a literature review of stress and pressure in athletic competition, 2) currently available questionnaires that assessed stress and anxiety, 3) coaches' views, and 4) the opinions of experts in the field. The result of this procedure yielded 16 items in the checklist relating to the sources of pressure perceived in athletic competition. The list of items was deliberately kept small in number. This was due to the checklist delimitation which required that the eventual tool be kept short and manageable. This would make it suitable for quick analysis in an unobtrusive way.

Seven items related to external pressure sources. These included such influences as: parents; friends and teammates; the press and media; spectators/audience; coaches; opponents; and officials. Nine items related to internal pressure sources and included such influences as self-perceived: performance outcomes; likelihood of success; preparation adequacy; competition

goals; competition readiness; preparation control; and competition difficulty.

An allowance for other individual pressure scores was also included in the item pool. Since there were no significant responses to this item during the collection of data, it was assumed that the item pool developed covered the full range of pressure sources. However, it was suggested that this item be included in the final checklist. This would give potential respondents the opportunity to include any other influences that they deem may affect their performance.

The item order was purposely arranged for the speedy scoring of external and internal pressure. Items from each pressure source were alternated until the final three internal items.

Readability

A readability check was performed to ensure that the checklist was understandable by potential respondents. Based upon the suggestions of the student judges, one item was reworded to be more easily understood (See Appendix F). The concepts and wording of the items were deemed to be readable by persons older than 11 years of age.

Reliability

The checklist was administered to 20 subjects to evaluate reliability. Administration of the checklist was kept simple. The subjects were given a pre-test on arrival at training. The preamble and checklist instructions were read aloud by the tester

TABLE 1

TEST-RETEST PRESSURE SCORE

RELIABILITY COEFFICIENTS

Pressure Indicator	<One Hour Retest		One Day Retest		Two Week Retest	
	r	n	r	n	r	n
Positive	.97	20	.95	20	.87	18
Negative	.97	20	.98	20	.46	18
Internal	.92	20	.89	20	.59	18
External	.92	20	.86	20	.77	18

and the subjects then proceeded to complete the inventory. Within an hour after completing the pre-test, the checklist with reordered items was given to the group.

To establish the checklist's reliability it was expected that scores for positive, negative, internal, and external pressure indicators should be at least equivalent to an r of 0.8. The results, summarized in Table 1, indicated that the test-retest reliability coefficients for the four pressure indicators were well above the accepted criterion level. Therefore, no separate items needed to be evaluated. The test-retest procedure proved the item pool to contain only reliable test items.

In addition to the situational retest, a one day and two week interval retest were administered. The one day retest also indicated acceptable reliability coefficients for the four pressure indicators. The two week interval retest showed a reduction in the reliability coefficients, particularly the negative and internal pressure indicators.

Validity

After reliability and readability were established, the checklist was sent to seven judges (See Appendix D for the list of authorities) who assessed its content validity. The fundamental purpose for this action was to provide evidence that the checklist measured what it was purported to measure. The judges appeared to have evaluated the checklist with considerable interest. Based upon comments and suggestions offered by the panel of authorities, some of the items on the checklist were

structurally adjusted, but no items were deleted (See Appendix F). Most of the grammatical second-person syntax used in the original checklist was eliminated for external items and the checklist items, definitions, and preamble were reworded and shortened. However, the item content and concept meaning remained the same. This constituted the final form of the checklist and instructions (See Appendix G). Since no new items were suggested by the panel, the item pool remained the same in number.

Two of the judges suggested changes to the measuring technique of the checklist. A collapsing of the scale from seven to five discriminative responses, and a shifting of positive scores from the right to the left hand side of the answer sheet, were suggested as minor changes. Since an appeal to authority was made in employing an already scientifically validated scale (the LES, Sarason et al., 1978), the decision was justified in leaving the measuring technique in its original form. The item pool was deemed to be a valid measure of "sport pressure" and its two underlying dimensions.

Summary

The result of the content validity, readability, and reliability procedures yielded a valid and reliable checklist. An appropriate number of representative items were developed to measure the construct "pressure". The number of items were ordered and kept to a minimum, so as to comply with the delimitations of this thesis. The checklist proved to be understandable by the low end target user group of males and females over the age of 11 years.

Marking the Checklist

The checklist yields four scores. Due to design, these scores can be easily hand computed for instant analysis. The procedures for manually processing the results are described below.

A. Positive and Negative Pressure Scores

A score is obtained for both positive and negative pressure by separately totalling all the positive and negative values respectively. A maximum score of 48 is possible for either the positive or negative pressure score for the 16 items. A positive pressure score indicates the self-perceived facilatatory effects of pressure on athletic performance. A negative pressure score indicates the adverse or inhibitory reactions of pressure prior to performance. The zero response indicates a pressure source having no influence or meaning to the performer.

B. Internal and External Pressure Scores

A score is obtained for internal and external pressure by separately summing the absolute values for the respective seven external items (numbers 1, 3, 5, 7, 9, 11, and 13) and nine internal items (numbers 2, 4, 6, 8, 10, 12, 14, 15, and 16).

The four scores from positive, negative, internal, and external pressure should then be graphed individually for each athlete. This would make it possible to more easily depict trends in athletes scores' prior to and during competition. The following Chapter illustrates the use of the checklist with graphic representations of the individual scores.

Individual Item Analysis

The analysis of individual items in the checklist also reveals situational information concerning athletes. Individual item responses can be examined and compared to previous responses for each athlete. A number of pertinent factors can be discovered. These include:

1. Responses of +3 would indicate that the item is highly facilitatory and could be deemed as a motivator.
2. Responses of -3 would indicate that the item may be causing a considerable problem and action may be required to alleviate the inhibitory influence.
3. Zero responses that change to either positive or negative scores may indicate important factors for the competitor that normally do not exist. For example, an athlete who usually responds to the pressure from spectator/audience with a zero or 'no influence' score and suddenly responds with a -3 score the day before competition. This may indicate to the coach that measures to alleviate the unnecessary pressure need to be taken.
4. Day to day score changes for individual pressure scores may or may not be the same between competitions for individual athletes.
5. Competition to competition score comparisons for each item may assist in discovering preferred levels of pressure for individual athletes.
6. The inclusion of 'other sources' in the checklist items,

provides an opportunity for athletes to add any other self-perceived pressures that may unexpectedly arise.

It is suggested that the checklist be used to collect data on at least seven days prior to competition and on the actual competition day(s). The four pressure scores can be used for comparison purposes by the coach. Also, individual item scores can be identified and compared to previous responses. With this information, the coach may decide to take steps to alter situational factors to return an athlete back to the best facilitatory pre-competition pressure level.

CHAPTER V

TESTING OF THE CHECKLIST

Shortly after the construction of the Sport Pressure Checklist, a study was conducted to discover the sensitivity of the inventory and provide evidence that the checklist measured what it was purported to measure. Another important reason for conducting the research was to develop questions and hypotheses as recommendations for further studies.

Four Olympic athletes were used for the collection of data in the study. Three separate competitions, including the 1984 Winter Olympic Games hosted in Sarajevo, provided the ideal environments for obtaining relevant information during high level athletic competitions. The checklist was administered to the four Olympic representatives of the Canadian Ski Jump Team. The competitions were the Canadian National Championships, hosted in Thunder Bay, Canada, and the 70 meter and 90 meter Olympic ski jump events.

The subjects were tested over an extensive period of time. The procedure required the athletes to complete the checklist each night during the days prior to competition. Because of the competition schedules the athletes were permitted to write the

inventory at their places of lodging. Subjects were tested in their own rooms with the guidance of a qualified supervisor, who was available at all times to answer any questions that the subjects may have had with regard to the checklist. This resulted in obtaining reliable data from four nationally ranked athletes during three major sporting competitions.

Results and Discussion

The data collected from the subjects were summarized in graphical form (Figures 1-4) for each individual athlete. The graphs showed the scores for positive, negative, internal, and external pressure scores with respect to time. The data provided the clearest indication of the checklist's ability to measure self-perceived pressure at various points in the competitive process. Further examination of Figures 1-4 reveal a number of individual and common trends in three of the four subjects.

Subject one (Figure 1) showed a majority of positive and internal pressure scores during the three competitions. Prior to the Canadian National competition, pressure scores indicated a rapid decrease. For many reasons it was decided by the coach, that a psychological intervention was required late on day five. This produced an immediate increase in the subject's self-perceived pressure scores (day six), primarily because of internal and positive score changes. The results in performance for both 70 meter and 90 meter National events were rated as 'very good' and 'capable' respectively. The internal pressure score was shown to drop off immediately after these competitions.

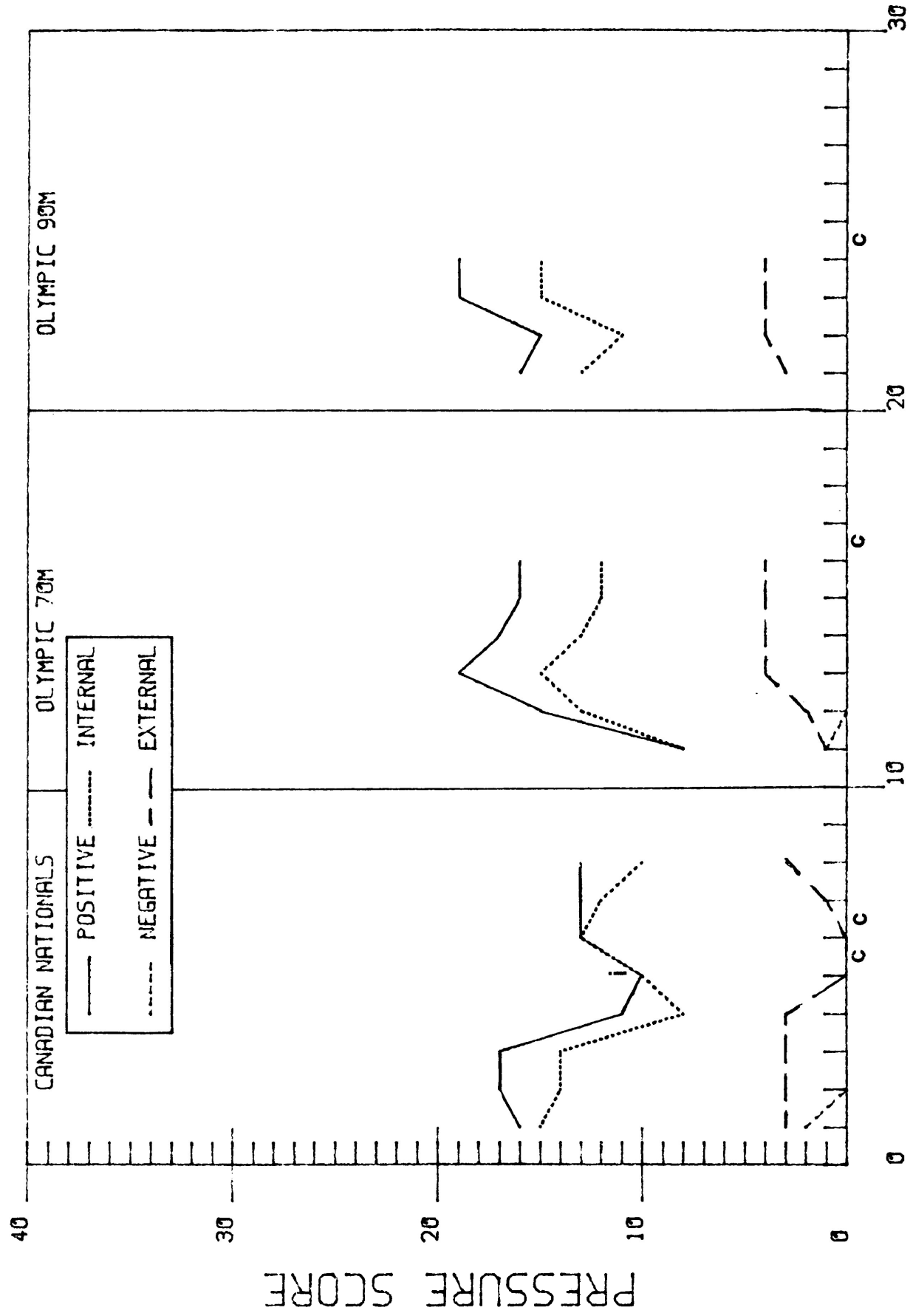

Figure 1: Pressure scores for subject one for three competition periods.

On arrival in Sarajevo, only days later, the dominant pressure score levels were lower than previously recorded values. It was suggested that 'jet-lag', post-competition pressure reduction, and distance in time before the next competition may have been reasons for the recording of these data. The score levels gradually increased to within those shown on the days prior to the previous competition. A decrease in levels then occurred, displaying a similar trend to that of the National competition, but scores then levelled. The resultant performance in the 70 meter Olympic event was rated as 'capable' and 'self-satisfying' for the subject. Prior to the 90 meter Olympic event, the pressure scores increased and again levelled. This performance was rated as 'good'. It was interesting to note the change in pressure score trends on the days prior to this last performance. Two 'good' performances were produced by this subject when the pressure score levels were shown to increase before each competition.

Subject two (Figure 2) displayed a predominance of very high positive pressure scores. Both internal and external scores were shown, but only the internal influences seemed to be consistently related to positive score levels.

The performances of this athlete at the Canadian National competitions were rated as 'good'. Positive pressure scores were consistently high on the days prior to and following these events while in Canada. On arrival at Sarajevo, the levels of internal and positive pressure scores had dropped. It was suggested

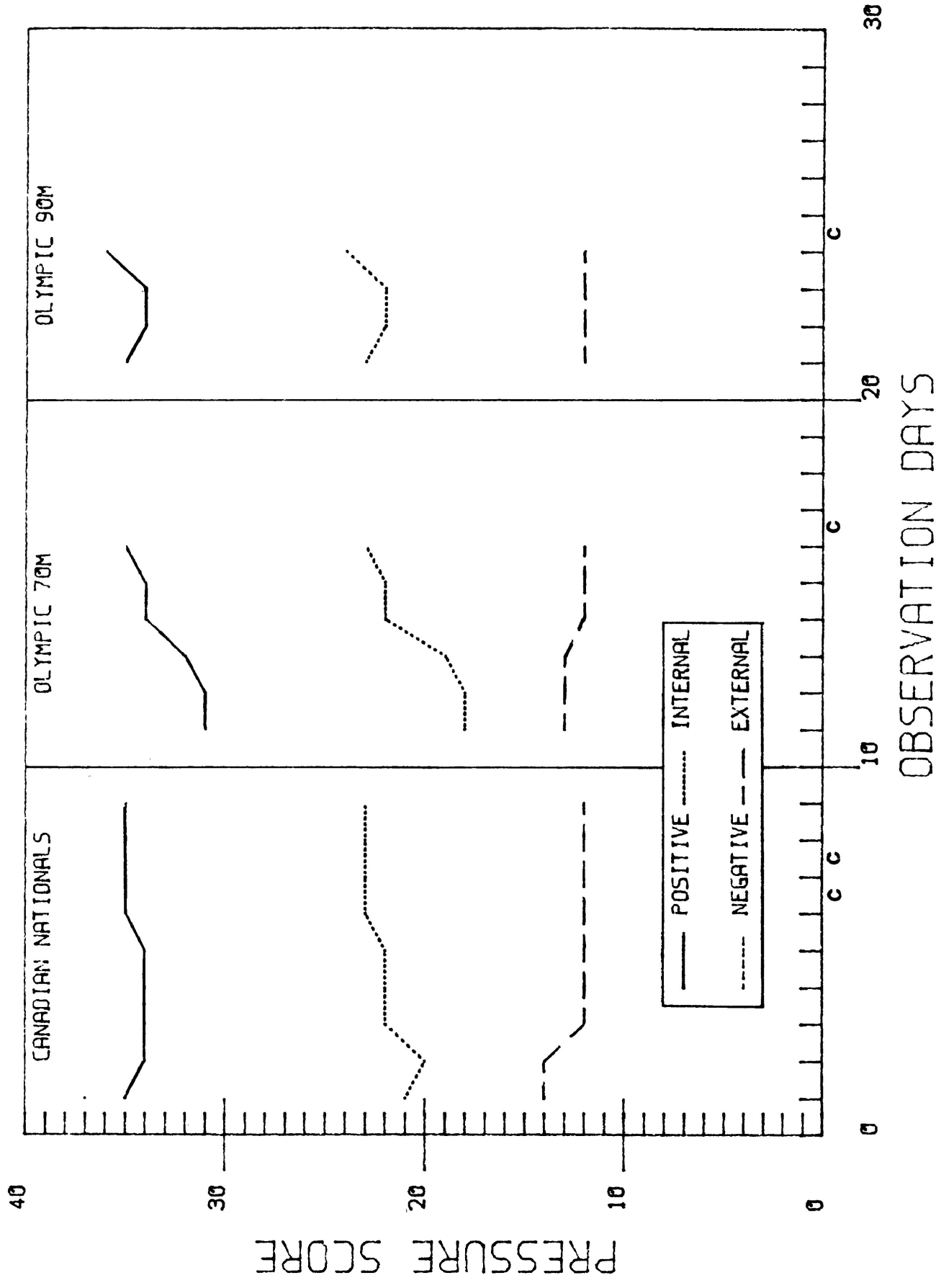

Figure 2: Pressure scores for subject two for three competition periods.

by the coaches that this may also have been due to 'jet-lag'. Score levels then slowly increased, finally reaching those recorded at the previous National Championships. The result of the 70 meter Olympic competition was rated as 'very poor' for this subject. It is interesting to note the lower levels of pressure prior to the Olympic competition compared to the National competition. This subject perceived less pressure prior to the Olympic event than at the National Championships. However, he performed better in the National competition.

After the 70 meter Olympic event, the pressure score levels were found to have increased to levels similar to those of the Canadian Championships. The highest scores for positive and internal pressures were recorded prior to the 90 meter Olympic event. A 'good' performance was recorded for this competition. The data for this subject suggested better performances occurred with higher levels of internal and positive pressure scores being recorded on the days prior to competition.

Subject three (Figure 3). A number of fluctuations in the pressure scores were displayed in this subject's data. Positive pressure scores were dominant but also external and internal scores were relatively high and showed similar trends to those of Subject two's data.

The trough of low pressure scores recorded prior to the Canadian National events occurred when the subject was ill (migraine headaches). Shortly after, pressure scores increased markedly. The resultant performances for the National competitions

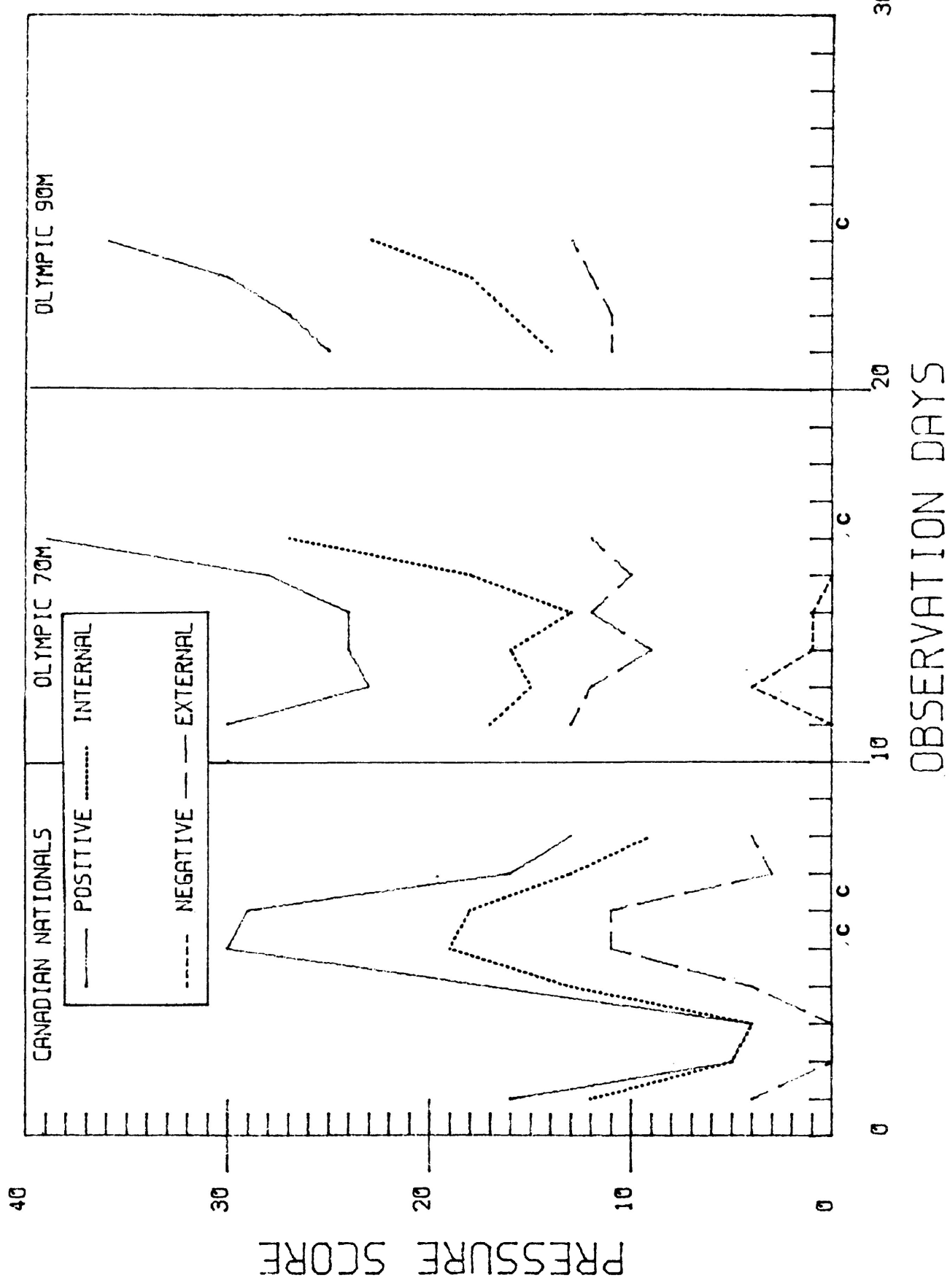

Figure 3: Pressure scores for subject three for three competition periods.

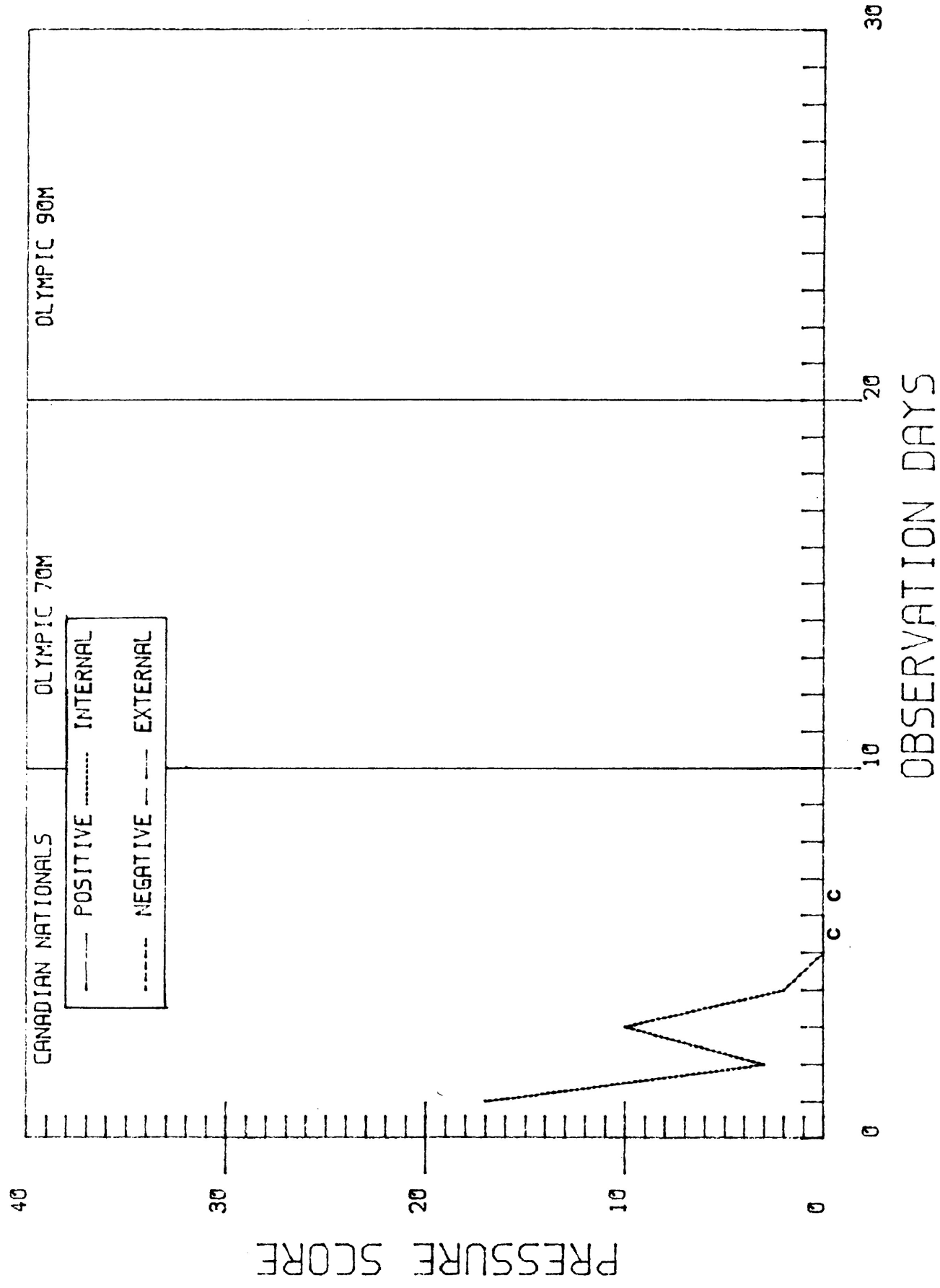

Figure 4: Pressure scores for subject four for one competition period.

were rated as 'capable' for this athlete. It should be noted that after these competitions all pressure scores were shown to drop off immediately.

Prior to the Olympic 70 meter event, another decrease in the pressure scores were recorded. Once again illness (infection) and 'jet-lag' were cited as reasons for these data. It should be noted that with the decrease in positive scores at this time, there was an increase in the negative pressure score, however, the negative score diminished prior to the competition. Although internal and positive pressure scores sharply increased prior to the 70 meter and 90 meter Olympic competitions, the performances for this subject were rated as 'poor'. The most noteworthy data recorded by this subject, were the pressure score decreases reflected when the subject was sick or suffering from 'jet-lag'.

Subject four (Figure 4). Data for this subject were collected only preceding the Canadian National events. Internal and positive pressure scores only were recorded. Prior to competition, pressure scores were shown to decrease to zero ratings and at the same time the subject reported illness and expressed verbal self-doubts. The resultant performances were rated as 'very poor'. It is interesting to note that no negative or external pressure scores were recorded in any of this subject's data.

Summary

A number of trends were illustrated in these data collected from high level athletes during international and national

competitions. The following list summarizes the prevalent patterns:

1. An absence of negative pressure scores among the athletes.
2. Dominant pressures are from internal and positive sources.
3. Individual pressure scores are apparent.
4. Pressure scores drop off after competition.
5. No other pressure sources exist other than those measured.
6. Each competition is different and is reflected in different pre-competition pressure curves.
7. Illness and 'jet-lag' seem to be reflected in the pressure scores.

Sincere efforts have been devoted to ensure that the check-list developed in this thesis, has fulfilled its intended purpose. It is a situational assessment inventory, appropriate for completion by athletes, to indicate their perception of "pressure' prior to and during athletic competition. With the data from four athletes, no generalizations with regard to the checklist can be made. This was outside the scope of this study. However, these data suggested a number of hypotheses for initial research. They are:

1. The higher the positive pressure levels, the better will be performance.
2. A fall in positive pressure levels predicts a poor performance.
3. Pressure is temporary and is related to the proximity of the competition.

4. Pressure perceptions from sources and magnitudes of scores are individual.

CHAPTER VI

CONCLUSIONS

A 16 item checklist was constructed. Its intended purpose was to provide an assessment tool to measure self-perceived pressure of athletes. Since the checklist's validity, reliability, and readability were established, it is believed that the checklist does measure what it was intended to; the pressure levels and sources perceived by athletes prior to a competitive performance.

The checklist in its final form was simple to administer and to evaluate. The items and definitions were easily understood by the respondents and required little or no interpretation on the part of the administrator.

The items were shown to cover the full range of sport related pressures, however, an allowance was made for any other sources of pressure that may exist for the individual athlete.

With respect to the results of this study, the checklist is acceptable as an assessment tool, in the practical sense, as an indicator of an athlete's self-perceived pressures prior to or during his/her performance.

Summary

The principal reason for developing this checklist was to discover the self-perceived pressure sources and levels of athletes. With this intention, information relating to pressure and stress was gathered from a number of different information sources. This procedure yielded an item pool of 16 questions, respective definitions for each item, and a measurement technique format.

A readability check of the inventory's preamble, definitions, and item pool was performed to ensure that the checklist would be understood by potential respondents. Based on the suggestions of the student judges, only one item was reworded to be more easily understood by the young respondents.

The checklist was then administered to 20 athletes to evaluate reliability. A test-retest procedure was used to produce only reliable items in the checklist. As a situational inventory, the checklist proved to be highly reliable with respect to all items in the pool.

The checklist was then sent to a panel of expert judges (N=7) who assessed its content validity. Judges evaluated the construct "pressure", the measuring technique, and each item in the pool. Based upon their comments and suggestions, no items were deleted or new items added to the pool. However, some of the items, definitions, and inventory preamble were reworded and altered slightly without losing any of the initial meaning.

To establish the checklist's sensitivity and usefullness for

coaches, a practical study was performed. Four nationally ranked athletes were administered the checklist over an extensive time period. During that period three high level competitions, including the 1984 Winter Olympic Games, were used to demonstrate the trends of the individuals in the various score components. These data reflected a number of prevalent factors, and suggestions were given for further research directions and hypotheses.

The original checklist underwent a variety of developmental stages. In its final form, it contained 16 items. It was shown to be a valid, reliable, readable, and sensitive assessment tool that had discriminative power and provoked honest, accurate responding in subjects. The checklist was small, manageable, and capable of providing immediate feedback for coaches seeking information through it. Responses on the scale were weighted to reflect the levels of either desirable or undesirable pressure, with respect to internal and external sources of influence. The checklist produces quick and easily accountable scores of self-perceived pressure. It provides a method for coaches to identify the sources and levels of pressure perceived by athletes in immediate precompetitive circumstances.

Recommendations

The checklist constructed in this thesis was practically tested with a small sample of highly ranked athletes and a number of hypotheses were suggested for initial research.

The checklist needs to be more extensively researched with many different populations of athletes in a wide variety of

environments. Pressure sources and levels perceived by elite athletes also need to be researched.

Since media and coaches often construe athletic failure to negative pressures perceived by the athlete, the question of whether athletes actually perceive these negative effects needs to be researched.

The constructed tool can be used by coaches in practical or research studies irrespective of the sport. This thesis produced a tool for measuring self-perceived pressure in athletes. Its use in research remains as a topic for future theses.

REFERENCES

Alderman, R. B. Psychological behavior in sport. Philadelphia: W. B. Saunder Co., 1974.

Alderman, R. B., & Hogg, J. M. Pre-competition preparation of athletes: Anxiety, tapering, and peaking. In Proceedings of the 6th Commonwealth Conference on Sport, Physical Education and Recreation, Edmonton, 1978.

Archer, J. Animals under stress. Baltimore: University Park Press, 1979.

Barrett, A. M. People under pressure. Connecticut: College and University Press, 1960.

Blanz, F. The attitudes and stress behavior of top athletes in the waiting situation before competition. In Proceedings of the 3rd World Congress of the International Society of Sports Psychology (Abstracts). Madrid; INEF, 1973.

Cratty, B. J. Social psychology in athletics. London: Prentice-Hall, 1981.

Elliott, L. A case study of how a promising young athlete was overstressed and dropped out and how he is now helping young athletes to succeed. Coaching Review, 1980, 3(14), 37-40.

Hanna, E. H. Potential sources of anxiety and depression associated with athletic competition. Canadian Journal of Applied Sport Sciences, 1979, 4(3), 199-204.

Hogg, J. M. Coaching the adolescent: Psychological considerations. Paper presented at the CSCA-CASA National Coaching Conference, Quebec, 1980.

Holmes, T. H., & Rahe, R. H. The social readjustment rating scale. Journal of Psychosomatic Research, 1967, 11, 213-218.

Jacobs, A. A. Why athletes choke. First Aider, 1982, 51(7), 4-5.

Johnson, T. Developing a realistic success expectency in young athletes. In T. T. Craig, (Ed.), Humanistic and mental aspects of sports, exercise and recreation. Chicago: American Medical Association, 1976.

Kaufmann, G, & Raaheim, K. Effect of inducing activity upon performance in an unfamiliar task. Psychological Reports, 1973, 32, 303-306.

Klavora, P., & Daniel, J. V. Coach, athlete, and the sport psychologist. Illinois: Human Kinetics Publishers, 1979.

Kroll, W. Competitive athletic stress factors in athletes and coaches. An address presented at the AAHPERD Convention, Boston, 1981.

Martens, R. Sport competition anxiety test. Champaign, Ill.: Human Kinetics, 1977.

McCafferty, W. Stress and age group competition. Swimming Technique, 1973, 54-55.

Murray, H. A. Explorations in psychology. New York: Oxford University Press, 1938.

Neil, G. I. Demystifying sport superstition. International Review of Sport Sociology, 1982, 1(17), 99-124.

Nideffer, R. M. The inner athlete. New York: Thomas Crowell Publishers, 1976.

Pierce, D., Kupprat, I., & Harry, D. Urinary epinephrine and norepinephrine levels in women athletes during training and competition. European Journal of Applied Physiology, 1976, 36, 1-6.

Rotter, J. B. Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 1966, 80(4), 1-28.

Rotter, J. B., Seeman, M., & Liverant, S. Internal versus external control of reinforcements: A major variable in behavior theory. In N. F. Washburn, (Ed.). Decisions, values, and groups. New York: Pergamon Press, 1962.

Rushall, B. S. Psyching in sport. London: Pelham, 1979a.

Rushall, B. S. Observations of psychological support services for elite sport teams. In P. Klavora & J. Daniel (Eds.), Coach, athlete, and the sport psychologist. Illinois: Human Kinetics, 1979b.

Rushall, B. S. A tool for measuring stress in elite athletes. In Y. Hanin, (Ed.), Stress and anxiety in sport. Moscow: Physical Culture and Sport Publishers, 1980.

Rushall, B. S. On-site psychological, preparations for athletes. Sports, 1981, BU-1, 1-8.

Rushall, B. S. Athlete centred problems that affect competitive performances. An address presented at the National Coaches' Seminar conducted by the Coaching Association of Canada, October, 1982.

Rushall, B. S. The content of competition thinking. In W. F. Straub and J. M. Williams, (Eds.), Cognitive sport psychology. Lansing, N. J.: Sports Science Associates, 1984.

Sarason, I. G., Johnson, J. H., & Siegel, J. M. Assessing the impact of life changes: Development of the Life Experiences Survey. Journal of Consulting and Clinical Psychology, 1978, 45(5), 932-946.

Selye, H. The stress of life. New York: McGraw-Hill, 1956.

Selye, H. Stress without distress. U.S.A.: McClelland and Stewart Limited, 1974.

Selye, H. The stress of my life. Toronto: McClelland and Stewart Limited, 1977.

Stauss, J. M. Sources of reinforcement as a potential factor in women's sport involvement. Master's thesis, University of North Carolina, Greensboro, 1975.

Surkina, I. D. Stress and immunity among athletes. Soviet Sports Review, 1982, 17(14), 198-202.

Tutko, T., & Bruns, W. Winning is everything, and other American myths. London: MacMillian Publishing, 1976.

Tutko, T., & Tosi, W. Sports psyching. Los Angeles: Tarcher/ Hawthorne Books, 1976.

Vanek, M. The psychological preparation of superior athletes. In Proceedings of the First International Symposium on the Art and Science of Coaching: Toronto, 1974, p. 117-126.

Vanek, M., & Cratty, B. Psychology and the superior athlete. London: Collier-MacMillan, 1970.

Vinokur, A., & Selzer, M. L. Desirable versus undesirable life events: Their relationship to stress and mental distress. Journal of Personality and Social Psychology, 1975, 32, 329-337.

Zaichkowsky, L. D., & Sime, W. E. Stress management for sport. Virginia: AAHPERD, 1982.

APPENDIX A

THE SPORT PRESSURE CHECKLIST

Read this section carefully

Pressure is something that is talked about often in sports. It means the feelings that an athlete has about having to perform well in a sporting contest. Pressure comes from many different sources. A certain amount of pressure is necessary for an athlete to do well. The extra effect on performance that comes from being in an exciting competitive situation is an example of a helpful effect from a source of pressure.

In some circumstances athletes are aware of the fact that they want to do well in competition. However, there are other persons, such as parents or the coach, or other events, such as items printed in a newspaper, that indicate that the athlete is expected to do something more or different to that which he/she wants to do in the contest. In such a situation the athlete usually would prefer to have these sources of annoyance removed. Alternatively, it may have been the athlete's wish that he/she had never become aware of these extra expectations for performance. When events such as these "bug" an athlete they are viewed as being negative influences that serve as worrisome distracters for the competitor.

On the other hand, there are times when knowing that other persons care about your performance and have confidence in you to the point that they expect you to do some level of performance, the athlete is helped in his/her approach to a competition. Usually, the athlete feels stronger and more confident in what he/she will do. In this case the added sources of expectation help the athlete in a positive way to prepare for a contest.

On the following pages are listed a number of sources of pressure and reasons for competing. What you are required to do is consider these sources and determine the way and extent to which they are affecting you, with regard to the upcoming competition, at this time. When you think about each item you should determine whether it has one of three effects on you:

1. A positive score (1, 2, or 3) indicates that you feel that the source of influence will help you to perform well.

2. A negative score (-1, -2, or -3) indicates that you feel that the source of influence bothers you or is forcing you to perform in some way that you do not really like. You would feel better about competing if this source did not exist.

3. A zero score (0) means that the source of influence has no effect or meaning for you in this competition.

If you have any questions about answering this test, ask the person who is administering it to explain what you would like to know.

DEFINITIONS FOR THE SPORT PRESSURE CHECKLIST

These definitions should be read and understood. If there are any that are difficult for you to understand ask your coach to explain them to you. You should learn these meanings so that you do not have to refer to them each time you fill out the checklist.

Parents' expectations of you. What your parents expect you to do in the contest.

What you expect to gain from the competition. There are a number of aims or outcomes (good things, benefits, rewards, etc.) that you expect to receive if you do well in the contest.

Your friends' expectations of you. What your friends, inside and outside of your sport expect of your performance.

How successful you expect to be. How you consider you will perform in the competition.

What the press and media expect of you. What you have read in the papers and had said to you by reporters or other media persons.

The adequacy of your competition preparation. How you think that what you have done to train and prepare for this competition will affect your performance.

The affect the spectators have on you. The crowd or spectator reaction to your competing.

Your need to improve. How much you feel you have to improve over past performances in this competition.

What the coach expects of you. What the coach expects or has set for you to do in the contest.

The anticipated contest difficulty. How you view the level of difficulty of the contest for achieving what you want.

The opponents against whom you will compete. How you view the opponents and their affect on what you want to achieve.

Your control over the preparation for the contest. How well you have controlled all the events that you wanted to while preparing for the competition.

How the officials and organizers are acting. The way the organization of the competition and the people in charge affect you.

Your readiness to perform. How ready you are to perform to your best ability.

The competition's importance. How important the competition is for you to achieve some result that you want.

Your goals for the competition. You have set one or more goals or expectations for performing in the competition. These affect you in some way.

Other sources. List factors that you are aware of that affect how you approach this competition.

APPENDIX B

THE SPORT PRESSURE CHECKLIST (ITEMS)

SOURCE OF INFLUENCE	Very Negative	Negative	Slightly Negative	No Influence	Slightly Positive	Positive	Very Positive
	-3	-2	-1	0	1	2	3
Parents' expectations of you	____	____	____	____	____	____	____
What you expect to gain from the competition	____	____	____	____	____	____	____
Your friends' expectations of you	____	____	____	____	____	____	____
How successful you expect to be	____	____	____	____	____	____	____
What the press and media expect of you	____	____	____	____	____	____	____
The adequacy of your competition preparation	____	____	____	____	____	____	____
The effect the spectators have on you	____	____	____	____	____	____	____
Your need to improve	____	____	____	____	____	____	____
What the coach expects of you	____	____	____	____	____	____	____
The anticipated contest difficulty	____	____	____	____	____	____	____
The opponents against whom you will compete	____	____	____	____	____	____	____
Your control over the preparation for the contest	____	____	____	____	____	____	____
How the officials and organizers are acting	____	____	____	____	____	____	____
Your readiness to perform	____	____	____	____	____	____	____
The competition's importance	____	____	____	____	____	____	____
Your goals for the competition	____	____	____	____	____	____	____
Other sources.....	____	____	____	____	____	____	____

SCORE NEGATIVE _____ POSITIVE _____

Date:..... Event:..... Result:.....

APPENDIX C

THE SPORT PRESSURE CHECKLIST (Retest)

SOURCE OF INFLUENCE	Very Negative		Slightly Negative	No Influence	Slightly Positive		Very Positive
	-3	-2	-1	0	1	2	3
What the coach expects of you	____	____	____	____	____	____	____
The anticipated contest difficulty	____	____	____	____	____	____	____
Your control over the preparation for the contest	____	____	____	____	____	____	____
The opponents against whom you will compete	____	____	____	____	____	____	____
Your readiness to perform	____	____	____	____	____	____	____
How the officials and organizers are acting	____	____	____	____	____	____	____
Your goals for the competition	____	____	____	____	____	____	____
The competition's importance	____	____	____	____	____	____	____
Parents' expectations of you	____	____	____	____	____	____	____
What you expect to gain from the competition	____	____	____	____	____	____	____
Your friends' expectations of you	____	____	____	____	____	____	____
How successful you expect to be	____	____	____	____	____	____	____
What the press and media expect of you	____	____	____	____	____	____	____
The adequacy of your competition preparation	____	____	____	____	____	____	____
The effect the spectators have on you	____	____	____	____	____	____	____
Your need to improve	____	____	____	____	____	____	____
Other sources.....	____	____	____	____	____	____	____

SCORE NEGATIVE _____ POSITIVE _____

Date:..... Event:..... Result:.....

APPENDIX D

Panel of Judges

1. Dr. Richard Alderman - University of Alberta
2. Dr. Gordon Garvie - University of Saskatchewan
3. Dr. John Jamieson - Lakehead University
4. Dr. Larry Leith - Lakehead University
5. Dr. Terry Orlick - University of Ottawa
6. Mr. Don Talbot - Australian Institute of Sport
7. Dr. Nancy Wood - Canadian Association of Coaches

TELEPHONE 345 2121
AREA CODE 807
55

Lakehead University
THUNDER BAY, ONTARIO, CANADA, POSTAL CODE P7B 5E1

SCHOOL OF PHYSICAL EDUCATION & OUTDOOR RECREATION

6 March, 1984

/Title/First/Last/
/Organization/
/Street/
/City/
/Province/

Dear/First/:

Please find enclosed a number of materials that are associated with a research project that Mr. Cheyne Sherman is conducting to complete his thesis for the M.Sc. degree in the Theory of Coaching at Lakehead University. We would like to solicit your help in evaluating these materials.

The project is concerned with developing a quick self-report inventory for the evaluation of self-perceived "pressure" in athletes. A number of external and internal sources of influence have been itemized with a view to covering the concept but keeping the inventory short so that it will not be intrusive on an athlete's preparation were it to be used close to a competitive effort. The items can be viewed as having a positive (facilitatory), negative (hindering), or no influence effect on athletic performance. These sources of pressure have been derived from a number of origins. They have been shown to be reliable and understandable by a variety of athletes.

It would be appreciated if you could read through the materials and comment where you feel it is appropriate to do so. If you could evaluate the actual questionnaire items on the following grounds it would be helpful.

1) Does the questionnaire measure the construct "pressure"? Is the definition used correct?
2) Are the items and their definitions adequate? If not please mark the item or definition with the letters NA.
3) Is the measurement procedure used in the questionnaire adequate? If not, suggestions would be appreciated.

Your co-operation in this project would be most helpful. Once the study is completed a copy of the finished materials will be forwarded to you. Would it be too much to ask that your evaluation be completed and returned within two weeks? For your convenience, a return envelope is included in this package for the response. If you are not able to participate could the enclosed materials be returned.

Thank you for your attention to this matter.

Sincerely yours,

Brent S. Rushall, Ph.D.
Professor

Cheyne A. Sherman, B.Sc., B.Ed.
Graduate-Assistant

APPENDIX F

Item content that remained similiar but the items were reworded upon suggestion by the panel of judges.

Parent's expectations of you
Parental expectations

Your friend's expectations of you
Friend's and teammates' expectations

What the press and media expect of you
Press and media expectations

The adequacy* of your competition preparation
Your competition preparation

The effect the spectators have on you
Crowd or audience effects

What the coach expects of you
Coach expectations

The opponents against whom you will compete
Opponents

How the officials and organizers are acting
Officials' and organizers' actions

*word deleted due to student judges

APPENDIX G

THE SPORT PRESSURE CHECKLIST

Read this section carefully

Pressure refers to the feelings that an athlete has about having to perform well in a sporting contest. It is influenced by many different factors. A certain amount of pressure is necessary for an athlete to do well. The extra effect on performance that comes from being in an exciting competitive situation is an example of a helpful effect from a source of pressure.

At some competitions there are other persons (e.g., parents, the coach, opponents) or other events (e.g., items printed in a newspaper, preparation disruptions) which suggest something different to what the athlete wants to do. When this happens, the athlete usually would prefer to have these sources of annoyance removed. It may be the athlete's wish that he/she had never become aware of these outside expectations for his/her performance. When events like these annoy an athlete, they are viewed as negative pressures that may serve as worrisome distracters for the competitor.

However, the athlete may be helped in his/her approach to competition. When preparation is going well or others care about the performance and have confidence in him/her, influences of this type may help the athlete in a positive way. These are viewed as positive pressures.

What to do

On the following pages are listed a number of sources of pressure and reasons for competing. What you are being asked to do is consider these sources and determine the way and extent to which they may be affecting you, with regard to the upcoming competition, at this time. When you think about each item you should determine whether it has one of three effects on you:

1. A positive score (1, 2, or 3) indicates that you feel better about competing because the pressure exists.

2. A negative score (-1, -2, or -3) indicates that you feel that the source of pressure bothers you and will not help you to perform well. You would feel better about competing if this pressure did not exist.

3. A zero score (0) means that the source of pressure has no meaning for you in this competition.

If you have any questions about answering this test, ask the person who is administering it to explain what you would like to know.

DEFINITIONS FOR THE SPORT PRESSURE CHECKLIST

These definitions should be read and understood. If there are any that are difficult for you to understand ask your coach to explain them to you. You should learn these meanings so that you do not have to refer to them each time you fill out the checklist.

Parental expectations. What your parents expect you to do in the contest.

What you expect to gain from the competition. There are a number of aims or outcomes (good things, benefits, rewards, etc.) that you expect to receive if you do well in the contest.

Friend's and teammates' expectations. What your friends, inside and outside of your sport expect of your performance.

How successful you expect to be. How you consider you will perform in the competition.

Press and media expectations. What you have read in the papers or seen or heard reporters or other media persons say about you.

The adequacy of your competition preparation. How you think that what you have done to train and prepare for this competition will affect your performance.

Crowd or audience effects. The crowd, audience, or spectator reaction to you and your competing.

Your need to improve. How much you feel you have to improve your performance in this competition.

Coach expectations. What the coach expects or has set for you to do in the contest.

The anticipated contest difficulty. How you view the level of difficulty of the contest for achieving what you want.

Opponents. How you view the opponents and their effect on what you want to achieve.

Your control over the preparation for the contest. How well you have controlled all the events that you wanted to while preparing for the competition.

Officials' and organizers' actions. The way the organization of the competition and the people in charge affect you.

Your readiness to perform. How ready you are to perform to your best ability.

The competition's importance. How important the competition is for you to achieve some result that you want.

Your goals for the competition. You have set one or more goals or expectations for performing in the competition. These affect you in some way.

Other sources. Write down factors you are aware of that affect how you approach this competition.

THE SPORT PRESSURE CHECKLIST

SOURCE OF INFLUENCE	Very Negative	Negative	Slightly Negative	No Influence	Slightly Positive	Positive	Very Positive
	-3	-2	-1	0	1	2	3
Parental expectations	____	____	____	____	____	____	____
What you expect to gain from the competition	____	____	____	____	____	____	____
Friends' and teammates' expectations	____	____	____	____	____	____	____
How successful you expect to be	____	____	____	____	____	____	____
Press and media expectations	____	____	____	____	____	____	____
Your competition preparation	____	____	____	____	____	____	____
Crowd or audience effects	____	____	____	____	____	____	____
Your need to improve	____	____	____	____	____	____	____
Coach expectations	____	____	____	____	____	____	____
The anticipated contest difficulty	____	____	____	____	____	____	____
Opponents	____	____	____	____	____	____	____
Your control over the preparation for the contest	____	____	____	____	____	____	____
Officials' and organizers' actions	____	____	____	____	____	____	____
Your readiness to perform	____	____	____	____	____	____	____
The competition's importance	____	____	____	____	____	____	____
Your goals for the competition	____	____	____	____	____	____	____
Other sources.....	____	____	____	____	____	____	____

SCORE Internal _____ External _____ Negative _____ Positive _____

Date:..... Event:....., Result:.....