The University of Manitoba

The Effect of Positive Verbal Feedback on the Intrinsic Motivation of Grade One Boys and Girls Performing a Motor Skill

By

Gaetane Tremblay

Submitted to

The Faculty of Graduate Studies

in Partial Fulfillment

of the Requirements for the Degree

Master of Science

Faculty of Physical Education and Recreation Studies

January, 1994

ISBN 0-315-98994-7

Name GAETANE TREMBLAY

Dissertation Abstracts International is arranged by broad, general subject categories. Please select the one subject which most nearly describes the content of your dissertation. Enter the corresponding four-digit code in the spaces provided.

THE EFFECT OF POSITIVE VERBAL FEEDBACK ON THE INTRINSIC MOTIVATION OF GRADE ONE BOYS AND GIRLS PERFORMING A MOTOR SKILL.

SUBJECT TERM

0575

SUBJECT CODE

U·M·I

Subject Categories

THE HUMANITIES AND SOCIAL SCIENCES

COMMUNICATIONS AND THE ARTS
Architecture 0729
Art History 0377
Cinema 0900
Dance 0378
Fine Arts 0357
Information Science 0723
Journalism 0391
Library Science 0399
Mass Communications 0708
Music 0413
Speech Communication 0459
Theater 0465

EDUCATION
General 0515
Administration 0514
Adult and Continuing 0516
Agricultural 0517
Art 0273
Bilingual and Multicultural 0282
Business 0688
Community College 0275
Curriculum and Instruction 0727
Early Childhood 0518
Elementary 0524
Finance 0277
Guidance and Counseling 0519
Health 0680
Higher 0745
History of 0520
Home Economics 0278
Industrial 0521
Language and Literature 0279
Mathematics 0280
Music 0522
Philosophy of 0998
Physical 0523
Psychology 0525
Reading 0535
Religious 0527
Sciences 0714
Secondary 0533
Social Sciences 0534
Sociology of 0340
Special 0529
Teacher Training 0530
Technology 0710
Tests and Measurements 0288
Vocational 0747

LANGUAGE, LITERATURE AND LINGUISTICS
Language
- General 0679
- Ancient 0289
- Linguistics 0290
- Modern 0291

Literature
- General 0401
- Classical 0294
- Comparative 0295
- Medieval 0297
- Modern 0298
- African 0316
- American 0591
- Asian 0305
- Canadian (English) 0352
- Canadian (French) 0355
- English 0593
- Germanic 0311
- Latin American 0312
- Middle Eastern 0315
- Romance 0313
- Slavic and East European 0314

PHILOSOPHY, RELIGION AND THEOLOGY
Philosophy 0422
Religion
- General 0318
- Biblical Studies 0321
- Clergy 0319
- History of 0320
- Philosophy of 0322

Theology 0469

SOCIAL SCIENCES
American Studies 0323
Anthropology
- Archaeology 0324
- Cultural 0326
- Physical 0327

Business Administration
- General 0310
- Accounting 0272
- Banking 0770
- Management 0454
- Marketing 0338

Canadian Studies 0385
Economics
- General 0501
- Agricultural 0503
- Commerce-Business 0505
- Finance 0508
- History 0509
- Labor 0510
- Theory 0511

Folklore 0358
Geography 0366
Gerontology 0351
History
- General 0578
- Ancient 0579
- Medieval 0581
- Modern 0582
- Black 0328
- African 0331
- Asia, Australia and Oceania 0332
- Canadian 0334
- European 0335
- Latin American 0336
- Middle Eastern 0333
- United States 0337

History of Science 0585
Law 0398
Political Science
- General 0615
- International Law and Relations 0616
- Public Administration 0617

Recreation 0814
Social Work 0452
Sociology
- General 0626
- Criminology and Penology 0627
- Demography 0938
- Ethnic and Racial Studies 0631
- Individual and Family Studies 0628
- Industrial and Labor Relations 0629
- Public and Social Welfare 0630
- Social Structure and Development 0700
- Theory and Methods 0344

Transportation 0709
Urban and Regional Planning 0999
Women's Studies 0453

THE SCIENCES AND ENGINEERING

BIOLOGICAL SCIENCES
Agriculture
- General 0473
- Agronomy 0285
- Animal Culture and Nutrition 0475
- Animal Pathology 0476
- Food Science and Technology 0359
- Forestry and Wildlife 0478
- Plant Culture 0479
- Plant Pathology 0480
- Plant Physiology 0817
- Range Management 0777
- Wood Technology 0746

Biology
- General 0306
- Anatomy 0287
- Biostatistics 0308
- Botany 0309
- Cell 0379
- Ecology 0329
- Entomology 0353
- Genetics 0369
- Limnology 0793
- Microbiology 0410
- Molecular 0307
- Neuroscience 0317
- Oceanography 0416
- Physiology 0433
- Radiation 0821
- Veterinary Science 0778
- Zoology 0472

Biophysics
- General 0786
- Medical 0760

EARTH SCIENCES
Biogeochemistry 0425
Geochemistry 0996
Geodesy 0370
Geology 0372
Geophysics 0373
Hydrology 0388
Mineralogy 0411
Paleobotany 0345
Paleoecology 0426
Paleontology 0418
Paleozoology 0985
Palynology 0427
Physical Geography 0368
Physical Oceanography 0415

HEALTH AND ENVIRONMENTAL SCIENCES
Environmental Sciences 0768
Health Sciences
- General 0566
- Audiology 0300
- Chemotherapy 0992
- Dentistry 0567
- Education 0350
- Hospital Management 0769
- Human Development 0758
- Immunology 0982
- Medicine and Surgery 0564
- Mental Health 0347
- Nursing 0569
- Nutrition 0570
- Obstetrics and Gynecology 0380
- Occupational Health and Therapy 0354
- Ophthalmology 0381
- Pathology 0571
- Pharmacology 0419
- Pharmacy 0572
- Physical Therapy 0382
- Public Health 0573
- Radiology 0574
- Recreation 0575
- Speech Pathology 0460
- Toxicology 0383

Home Economics 0386

PHYSICAL SCIENCES
Pure Sciences
Chemistry
- General 0485
- Agricultural 0749
- Analytical 0486
- Biochemistry 0487
- Inorganic 0488
- Nuclear 0738
- Organic 0490
- Pharmaceutical 0491
- Physical 0494
- Polymer 0495
- Radiation 0754

Mathematics 0405
Physics
- General 0605
- Acoustics 0986
- Astronomy and Astrophysics 0606
- Atmospheric Science 0608
- Atomic 0748
- Electronics and Electricity 0607
- Elementary Particles and High Energy 0798
- Fluid and Plasma 0759
- Molecular 0609
- Nuclear 0610
- Optics 0752
- Radiation 0756
- Solid State 0611

Statistics 0463

Applied Sciences
Applied Mechanics 0346
Computer Science 0984

Engineering
- General 0537
- Aerospace 0538
- Agricultural 0539
- Automotive 0540
- Biomedical 0541
- Chemical 0542
- Civil 0543
- Electronics and Electrical 0544
- Heat and Thermodynamics 0348
- Hydraulic 0545
- Industrial 0546
- Marine 0547
- Materials Science 0794
- Mechanical 0548
- Metallurgy 0743
- Mining 0551
- Nuclear 0552
- Packaging 0549
- Petroleum 0765
- Sanitary and Municipal 0554
- System Science 0790

Geotechnology 0428
Operations Research 0796
Plastics Technology 0795
Textile Technology 0994

PSYCHOLOGY
General 0621
Behavioral 0384
Clinical 0622
Developmental 0620
Experimental 0623
Industrial 0624
Personality 0625
Physiological 0989
Psychobiology 0349
Psychometrics 0632
Social 0451

Nom ____

Dissertation Abstracts International est organisé en catégories de sujets. Veuillez s.v.p. choisir le sujet qui décrit le mieux votre thèse et inscrivez le code numérique approprié dans l'espace réservé ci-dessous.

____ ☐☐☐☐ U·M·I

SUJET — CODE DE SUJET

Catégories par sujets

HUMANITÉS ET SCIENCES SOCIALES

COMMUNICATIONS ET LES ARTS
Architecture 0729
Beaux-arts 0357
Bibliothéconomie 0399
Cinéma 0900
Communication verbale 0459
Communications 0708
Danse 0378
Histoire de l'art 0377
Journalisme 0391
Musique 0413
Sciences de l'information 0723
Théâtre 0465

ÉDUCATION
Généralités 515
Administration 0514
Art 0273
Collèges communautaires 0275
Commerce 0688
Économie domestique 0278
Éducation permanente 0516
Éducation préscolaire 0518
Éducation sanitaire 0680
Enseignement agricole 0517
Enseignement bilingue et multiculturel 0282
Enseignement industriel 0521
Enseignement primaire. 0524
Enseignement professionnel 0747
Enseignement religieux 0527
Enseignement secondaire 0533
Enseignement spécial 0529
Enseignement supérieur 0745
Évaluation 0288
Finances 0277
Formation des enseignants 0530
Histoire de l'éducation 0520
Langues et littérature 0279
Lecture 0535
Mathématiques 0280
Musique 0522
Orientation et consultation 0519
Philosophie de l'éducation 0998
Physique 0523
Programmes d'études et enseignement 0727
Psychologie 0525
Sciences 0714
Sciences sociales 0534
Sociologie de l'éducation 0340
Technologie 0710

LANGUE, LITTÉRATURE ET LINGUISTIQUE
Langues
- Généralités 0679
- Anciennes 0289
- Linguistique 0290
- Modernes 0291

Littérature
- Généralités 0401
- Anciennes 0294
- Comparée 0295
- Mediévale 0297
- Moderne 0298
- Africaine 0316
- Américaine 0591
- Anglaise 0593
- Asiatique 0305
- Canadienne (Anglaise) 0352
- Canadienne (Française) 0355
- Germanique 0311
- Latino-américaine 0312
- Moyen-orientale 0315
- Romane 0313
- Slave et est-européenne 0314

PHILOSOPHIE, RELIGION ET THÉOLOGIE
Philosophie 0422
Religion
- Généralités 0318
- Clergé 0319
- Études bibliques 0321
- Histoire des religions 0320
- Philosophie de la religion 0322

Théologie 0469

SCIENCES SOCIALES
Anthropologie
- Archéologie 0324
- Culturelle 0326
- Physique 0327

Droit 0398
Économie
- Généralités 0501
- Commerce-Affaires 0505
- Économie agricole 0503
- Économie du travail 0510
- Finances 0508
- Histoire 0509
- Théorie 0511

Études américaines 0323
Études canadiennes 0385
Études féministes 0453
Folklore 0358
Géographie 0366
Gérontologie 0351
Gestion des affaires
- Généralités 0310
- Administration 0454
- Banques 0770
- Comptabilité 0272
- Marketing 0338

Histoire
- Histoire générale 0578
- Ancienne 0579
- Médiévale 0581
- Moderne 0582
- Histoire des noirs 0328
- Africaine 0331
- Canadienne 0334
- États-Unis 0337
- Européenne 0335
- Moyen-orientale 0333
- Latino-américaine 0336
- Asie, Australie et Océanie 0332

Histoire des sciences 0585
Loisirs 0814
Planification urbaine et régionale 0999
Science politique
- Généralités 0615
- Administration publique 0617
- Droit et relations internationales 0616

Sociologie
- Généralités 0626
- Aide et bien-àtre social 0630
- Criminologie et établissements pénitentiaires 0627
- Démographie 0938
- Études de l' individu et de la famille 0628
- Études des relations interethniques et des relations raciales 0631
- Structure et développement social 0700
- Théorie et méthodes. 0344
- Travail et relations industrielles 0629

Transports 0709
Travail social 0452

SCIENCES ET INGÉNIERIE

SCIENCES BIOLOGIQUES
Agriculture
- Généralités 0473
- Agronomie. 0285
- Alimentation et technologie alimentaire 0359
- Culture 0479
- Élevage et alimentation 0475
- Exploitation des péturages 0777
- Pathologie animale 0476
- Pathologie végétale 0480
- Physiologie végétale 0817
- Sylviculture et faune 0478
- Technologie du bois 0746

Biologie
- Généralités 0306
- Anatomie 0287
- Biologie (Statistiques) 0308
- Biologie moléculaire 0307
- Botanique 0309
- Çellule 0379
- Écologie 0329
- Entomologie 0353
- Génétique 0369
- Limnologie 0793
- Microbiologie 0410
- Neurologie 0317
- Océanographie 0416
- Physiologie 0433
- Radiation 0821
- Science vétérinaire 0778
- Zoologie 0472

Biophysique
- Généralités 0786
- Medicale 0760

SCIENCES DE LA TERRE
Biogéochimie 0425
Géochimie 0996
Géodésie 0370
Géographie physique 0368
Géologie 0372
Géophysique 0373
Hydrologie 0388
Minéralogie 0411
Océanographie physique 0415
Paléobotanique 0345
Paléoécologie 0426
Paléontologie 0418
Paléozoologie 0985
Palynologie 0427

SCIENCES DE LA SANTÉ ET DE L'ENVIRONNEMENT
Économie domestique 0386
Sciences de l'environnement 0768
Sciences de la santé
- Généralités 0566
- Administration des hipitaux 0769
- Alimentation et nutrition 0570
- Audiologie 0300
- Chimiothérapie 0992
- Dentisterie 0567
- Développement humain 0758
- Enseignement 0350
- Immunologie 0982
- Loisirs 0575
- Médecine du travail et thérapie 0354
- Médecine et chirurgie 0564
- Obstétrique et gynécologie 0380
- Ophtalmologie 0381
- Orthophonie 0460
- Pathologie 0571
- Pharmacie 0572
- Pharmacologie 0419
- Physiothérapie 0382
- Radiologie 0574
- Santé mentale 0347
- Santé publique 0573
- Soins infirmiers 0569
- Toxicologie 0383

SCIENCES PHYSIQUES
Sciences Pures
Chimie
- Genéralités 0485
- Biochimie 487
- Chimie agricole 0749
- Chimie analytique 0486
- Chimie minérale 0488
- Chimie nucléaire 0738
- Chimie organique 0490
- Chimie pharmaceutique 0491
- Physique 0494
- PolymÇres 0495
- Radiation 0754

Mathématiques 0405
Physique
- Généralités 0605
- Acoustique 0986
- Astronomie et astrophysique 0606
- Electronique et électricité 0607
- Fluides et plasma 0759
- Météorologie 0608
- Optique 0752
- Particules (Physique nucléaire) 0798
- Physique atomique 0748
- Physique de l'état solide 0611
- Physique moléculaire 0609
- Physique nucléoire 0610
- Radiation 0756

Statistiques 0463

Sciences Appliqués Et Technologie
Informatique 0984
Ingénierie
- Généralités 0537
- Agricole 0539
- Automobile 0540
- Biomédicale 0541
- Chaleur et ther modynamique 0348
- Conditionnement (Emballage) 0549
- Génie aérospatial 0538
- Génie chimique 0542
- Génie civil 0543
- Génie électronique et électrique 0544
- Génie industriel 0546
- Génie mécanique 0548
- Génie nucléaire 0552
- Ingénierie des systömes 0790
- Mécanique navale 0547
- Métallurgie 0743
- Science des matériaux 0794
- Technique du pétrole 0765
- Technique minière 0551
- Techniques sanitaires et municipales 0554
- Technologie hydraulique 0545

Mécanique appliquée 0346
Géotechnologie 0428
Matières plastiques (Technologie) 0795
Recherche opérationnelle 0796
Textiles et tissus (Technologie) 0794

PSYCHOLOGIE
Généralités 0621
Personnalité 0625
Psychobiologie 0349
Psychologie clinique 0622
Psychologie du comportement 0384
Psychologie du développement 0620
Psychologie expérimentale 0623
Psychologie industrielle 0624
Psychologie physiologique 0989
Psychologie sociale 0451
Psychométrie 0632

THE EFFECT OF POSITIVE VERBAL FEEDBACK ON THE INTRINSIC

MOTIVATION OF GRADE ONE BOYS AND GIRLS

PERFORMING A MOTOR SKILL

BY

GAETANE TREMBLAY

A Thesis submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements of the degree of

MASTER OF SCIENCE

Abstract

The purpose of this study was to explore the relationship between positive verbal feedback and intrinsic motivation of grade one boys and girls performing a motor skill. The research literature presents conflicting conclusions with regard to the effect of positive verbal feedback on the intrinsic motivation of males and females. Some researchers have found positive verbal feedback to increase intrinsic motivation for males and decrease intrinsic motivation for females, while other researchers have reported that positive verbal feedback increases intrinsic motivation for both genders. In addition, there is a very limited amount of intrinsic motivation research reported involving children of the elementary school age and no research has been reported using motor skills.

The subjects for the study were 60 grade one students, 30 boys and 30 girls. They were randomly assigned to one of two conditions (i.e. a moderate amount of positive verbal feedback and no feedback) and were asked to perform a motor task (i.e. throw bean bags at a target). The level of intrinsic motivation was measured through an eight minute free choice period. In order to assess the effect of gender and positive verbal feedback on intrinsic motivation a 2 X 2 (male-female X no feedback-feedback) analysis of variance was carried out on the intrinsic motivation measures. Results of the analysis revealed that the gender main effect, the treatment main effect, and the interraction were not significant.

The results were discussed in relation to previous research and cognitive evaluation theory. Directions for future research were suggested.

Table of Contents

List of Tables

Chapter I

Introduction

Intrinsic motivation has been a concept of interest for many researchers over the past twenty years (e.g. Deci, 1972; Zinser, Young & King, 1982; Blanck, Reis & Jackson, 1984; Vallerand & Reid, 1988; Whitehead & Corbin, 1991). Researchers have attempted to understand how intrinsic motivation operates and to identify the conditions most likely to maintain and increase it. One factor that influences intrinsic motivation is positive verbal feedback (Deci, 1972; Vallerand, 1983; Blanck, Reis & Jackson, 1984; Vallerand & Reid, 1988). Positive verbal feedback is one of the most utilized forms of reward in sport and physical activity, therefore, it is important to have a very clear understanding of the relationship between positive verbal feedback and intrinsic motivation.

The research published on this topic presents conflicting conclusions with regard to the effect of positive verbal feedback on the intrinsic motivation of males and females. Some researchers (Deci, 1975; Zinser, Young & King, 1982) have reported that positive verbal feedback increases males' intrinsic motivation while it decreases females' intrinsic motivation. However, other studies (Vallerand & Reid, 1988; Blanck, Reis & Jackson, 1984) found no gender differences. The conflicting results have usually been interpreted through cognitive evaluation theory by suggesting that the different socialization experiences of males and females might explain the conflicting findings. For example, research (Deci, 1972, 1975) completed during the 1970's with university undergraduate subjects found a gender difference, while similar research (Blanck, Reis & Jackson, 1984) completed during the 1980's found no gender difference. These results could be explained if one accepts the fact that socialization experiences of females changed from the 1970's to the 1980's. Although this is a possible explanation a study (Zinser, Young & King, 1982) in the latter decade reported a gender difference with "young" children. A possible explanation for these results is that changes in socialization may have taken place over the years, but that it only affected females who interacted in an achievement-oriented setting such as university, while children who have not yet engaged in such a setting may still be subjected to "traditional" socialization practice (Vallerand & Reid, 1988).

Problem Statement

The purpose of this study was to explore the relationship between positive verbal feedback and intrinsic motivation of grade one boys and girls performing a motor skill.

Significance of the Study

The study was needed to clarify the conflicting results of previously reported research. In addition, a very limited amount of the reported research (Zinser et al., 1982) has been conducted with elementary school children. Finally, there is a lack of research with young children utilizing tasks involving the motor skills required in the elementary school physical education setting. It is important for physical educators, coaches, teachers and parents working with boys and girls of this age group to understand how positive verbal feedback affects intrinsic motivation in order to enhance the youngsters' enjoyment of physical activity.

Hypotheses

It was hypothesized that:

1) Grade one boys' intrinsic motivation will increase following a moderate amount of positive verbal feedback.

2) Grade one girls' intrinsic motivation will not change following a moderate amount of positive verbal feedback.

Assumptions and Limitation

There were three basics assumptions in this study. The first assumption was that the tasks used, both the alternative tasks and the experimental task, were equally interesting for both genders, that is, they are gender neutral. The second assumption was that all the tasks used were optimally challenging for grade one boys and girls (i.e., the task difficulty was appropriate for this age group, rather than too easy or too difficult). The third assumption was that the free choice period is a valid measure of intrinsic motivation. The results of this study was limited to grade one school children performing a motor skill task.

Definitions

A moderate amount of feedback is operationally defined as 12 verbal reinforcements for a total of 24 trials.

Intrinsic motivation is operationally defined as the amount of time spent at the experimental task during an eight minute free choice period.

Informational events are defined as events that facilitate an internal perceived locus of causality and perceived competence, and they enhance intrinsic motivation.

<u>Controlling events</u> are defined as events that facilitate external perceived locus of causality, and they undermine intrinsic motivation.

<u>Amotivating events</u> are defined as events that facilitate perceived incompetence, and they undermine intrinsic motivation.

Chapter II

Review of Literature

The research literature presents conflicting conclusions with regard to the effect of positive verbal feedback on the intrinsic motivation of males and females. In an effort to enhance the understanding of this relationship, three major topics were examined. The topics include: a brief overview of intrinsic motivation, specific aspects of cognitive evaluation theory, and a review of recent research literature concerning the relationship of positive verbal feedback and intrinsic motivation.

Intrinsic Motivation

There are two broad classes of motivation to perform an activity; extrinsic motivation and intrinsic motivation. Extrinsic motivation refers to the performance of an activity because it leads to external rewards such as money or prizes. Intrinsic motivation refers to the performance of an activity for which there is no apparent reward except the activity itself (Deci, 1975). If one's goal is to motivate an individual to do a particular activity once and you are not concerned with a future recurrence of the activity, the use of an extrinsic reward may be appropriate and efficient. However, if one wishes to ensure that the individual will be motivated to engage in the activity again on their own, then one must increase and maintain the individual's level of intrinsic motivation.

Definition of Intrinsic Motivation Intrinsic motivation is believed to be innate for all humans. Children are intrinsically motivated to learn, play and be physically active. It is believed that sport activities are representative of intrinsically motivated activities (Vallerand & Reid, 1984). The interaction that an individual has with the environment affects the way intrinsic motivation develops and changes. Deci's definition of intrinsic motivation is generally accepted by most researchers (Vallerand & Reid, 1988; Deci & Ryan, 1985; Blanck, Reis, & Jackson, 1984). This definition states that intrinsically motivated activities are those for which there is no apparent reward except the activity itself and that intrinsic motivation is based on the need to feel competent and self-determining in dealing with the environment.

If the activity and the context in which an individual is engaged allows him/her to experience feelings of efficacy and personal control, he/she will become intrinsically motivated and may engage in the activity repeatedly in the absence of any apparent contingencies (Vallerand & Reid, 1988). Understanding that the major motivators for sport and physical activity are intrinsic in nature (Ryan, Vallerand, & Deci, 1984) leads to the important implication of knowing what factors are likely to facilitate and maintain intrinsic motivation and what factors will undermine it.

The Concept of Intrinsic Motivation The concept of intrinsic motivation is complex. Many researchers (Deci, 1972, 1975, 1978; Deci & Ryan, 1985; Vallerand & Halliwell, 1983) have studied intrinsic motivation and examined what factors are likely to influence it. When people receive extrinsic rewards for doing an intrinsic activity, their intrinsic motivation may be decreased, unaltered, or enhanced (Deci, 1978). Intrinsic motivation is affected differently depending on factors such as the kind of reward used, the way the reward is administered, the individual to whom it is directed and the context in which it happened. Cognitive evaluation theory is generally utilized to explain and understand the process by which intrinsic motivation works. In addition, Vallerand and Halliwell (1983) in their review of motivation theories and intrinsic motivation, concluded that the cognitive evaluation theory provided the most complete theory.

Cognitive Evaluation Theory

Cognitive evaluation theory suggests that two processes can be responsible for changes in intrinsic motivation; the perceived locus of causality and perceived competence. These two processes are seen as concomitant, rather than causes, of the motivational changes (Deci & Ryan, 1985). According to the theory, the impact of an event on motivational process is determined by its psychological meaning for the individual, not by the objective characteristics of the event itself. The perceived locus of causality and perceived competence are descriptors of a person's experience with regard to an event and reflect the individual's perception of reality. Whether the individual will interpret the event as being informational, controlling or amotivating, depends on the relative salience of these aspects to him/her. The past experiences of the individual determines the degree of salience (Deci & Ryan, 1985).

Perceived Locus of Causality One process by which intrinsic motivation can be affected is a change in perceived locus of causality. When the perceived locus of causality is in operation, intrinsic motivation varies as a function of perceptions and feelings of self-determination. Events that promote an external locus of causality will decrease intrinsic motivation, whereas those that promote an internal locus of causality will increase it.

This finding suggests that every event, whether a reward, a situation or a communication, can have three different functional significances; they can be informational, controlling or amotivating (Vallerand & Reid, 1990). Informational events are those that facilitate an internal perceived locus of causality and perceived competence, and they enhance intrinsic motivation. Controlling events are those that facilitate external perceived locus of causality, and they undermine intrinsic motivation. Amotivating events are those that facilitate perceived incompetence, and they also undermine intrinsic motivation. Those aspects of an event can be differentially salient to different people or to the same person at different times. It is the relative salience of the three aspects to a person that affects changes in perceived locus of causality and perceived competence, and that alters the person's intrinsic motivation (Deci & Ryan, 1985). Also, even if there are tendencies for particular events to be experienced in certain ways, many factors can affect how they are perceived at any given time.

<u>Perceived Competence</u> The second process by which intrinsic motivation can be affected is a change in perceived competence. The cognitive evaluation theory suggests that external events will affect a person's intrinsic motivation for an optimally challenging activity to the extent that they influence the person's perceived competence and self-determination (Deci & Ryan, 1985). Events that promote greater perceived competence will enhance intrinsic motivation, and those that diminish perceived competence will decrease intrinsic motivation. Two studies have explored the relationship between perceived competence and intrinsic motivation by considering the effect of feedback on intrinsic motivation. These researchers (Vallerand & Reid, 1984; Whitehead & Corbin, 1991) found support for cognitive evaluation theory.

<u>Verbal Feedback</u>

In support of cognitive evaluation theory, researchers found that perceived competence mediated between feedback and intrinsic motivation (Vallerand & Reid, 1984; Deci & Ryan, 1985; Whitehead & Corbin, 1991). Although there are tendencies for particular feedback to be experienced in certain ways, the personal context within which it occurs will affect how it is experienced (Deci & Ryan, 1985). Positive feedback for example, has the potential to be interpreted as either informational or controlling and this would have a different effect on an individual's intrinsic motivation.

In general, researchers agree that negative feedback decreases intrinsic motivation (Vallerand & Reid, 1988), however some conflicting findings on the effect of positive verbal feedback have been reported. Some researchers have found positive verbal feedback to increase intrinsic motivation for males and decrease intrinsic motivation for females (Deci, 1975; Zinser et al., 1982). Other researchers have found that positive verbal feedback increases intrinsic motivation for both genders (Vallerand & Reid, 1988; Blanck, Reis & Jackson, 1984).

<u>Feedback Receiver Characteristics</u> Gender. Deci initially reported a gender difference with intrinsic motivation. In an early study Deci (1972) reported that verbal reinforcement increased males' intrinsic motivation while it left the females' intrinsic motivation unchanged. Intrigued by those results, he later replicated the study (Deci, 1975) and found that positive feedback increased males' intrinsic motivation and decreased females' intrinsic motivation. Zinser et al. (1982) also found a gender difference. They reported that high verbal reward enhanced intrinsic motivation in

males and inhibited it in females. Other researchers found no gender differences. For example, Blanck, Reis, & Jackson (1984) replicated Deci's studies (1972, 1975) with the only difference between the studies being the task used, and found that verbal praise increased females' and males' intrinsic motivation. Vallerand & Reid (1988) also investigated the gender difference and, like Blanck et al. (1984), they did not find any difference between gender.

Deci (1975), interpreted his results through the cognitive evaluation theory by suggesting that due to traditional gender role socialization practices the informational aspect of praise may be more salient for males, thus increasing their intrinsic motivation, whereas the controlling aspect may be more salient for females, thus decreasing their intrinsic motivation. Blanck et al. (1984) explained their results by stating that Deci's hypothesis on the differential socialization process was no longer viable a decade later, and that socialization content had changed sufficiently to make equally salient to both genders the informational aspect inherent in the feedback.

Age. Similar to Deci (1975), Zinser et al. (1982) also found a gender difference. As this study was completed only two years prior to the Blanck et al.

(1984) study, the latter researchers' explanation for Deci's (1975) results may be challenged. One important point to notice is that for their study, Zinser et al. (1982) used children from grades two and three as subjects, while all the other studies used university undergraduates. Vallerand & Reid (1988) interpreted the Zinser et al. (1982) results by suggesting that changes in socialization may have taken place between the 1970's and the 1980's, but that these changes may actually have occurred only for those females who interact in an achievement-oriented setting such as university. They speculated that females who have not yet engaged in such a setting may still be subject to "traditional" socialization practices. Young children would fall into this category and this assumption requires further study.

Socialization Socialization is a life long process, and may be defined "as an interactional process whereby a person acquires a social identity, learns appropriate role behavior and in general conforms to expectations held by members of the social systems to which he or she belongs, or aspires to belong" (Staniford, 1984 p.8). During early childhood years an individual is socialized mostly by his\her family, but as one gets older the social circle gradually extends and the influences comes from many different sources. Socialization is not a simple process, it is affected by many factors, one being gender. Although it is less pronounced today it is clear that girls have been and are socialized differently than boys (Fitzpatrick, 1989).

In our society gender pervades every social relationship and every sphere of human activity. More overlap now occurs between male and female experience but they are still assigned different roles, rights and privileges, and are subject to different rules of conduct (Mackie, 1983). The role assumed by males and females are due in part to distinct and separate socialization experiences (Fitzpatrick, 1989).

Task One of the difficulties encountered in comparing the results of the previously discussed research is that a variety of tasks were employed. Deci (1972 & 1975) used a SOMA puzzle; Zinser et al. (1982) used hidden pictures from a drawing; Blanck et al. (1984) used a "Spill and Spell" word game; and Vallerand & Reid (1988) used a stabilometer. The latter study is unique in that it is the only study to assess a motor skill. This wide variety of tasks makes the comparison between the studies somewhat problematic. In addition, Blanck et al. (1984) proposed that Deci's finding of gender difference with regard to the effect of positive verbal feedback on intrinsic motivation may have been due to the fact that certain tasks may be perceived to be more appropriate for one gender than the other. The results of Blanck et al. (1984) did not support this conclusion, but they found that a sex-appropriate task was more intrinsically interesting than a sex-inappropriate task.

In summary, the characteristics of gender, age and task make it difficult to draw definitive conclusions from the research. In addition, although the measure of intrinsic motivation was a free choice period in all of the earlier studies, more recently Vallerand & Reid (1988) employed a questionnaire, the Mayo TRQ. Finally, the amount of feedback and the way feedback was administered was different from study to study. For example, Vallerand & Reid (1988) used positive and negative feedback, Deci (1972 & 1975) and Blanck et al. (1984) used positive feedback and no feedback, and Zinser et al. used three different levels of feedback (i.e. no feedback, low and high). This situation along with a limited amount of research on the topic, leaves physical educators, coaches, teachers and parents with questions that need to be explored in future research. Is the intrinsic motivation of young females of elementary school age influenced by positive verbal feedback? Is the effect of verbal feedback dependent on gender? Is the effect of positive verbal feedback dependent on the task? Specifically, how does positive verbal feedback influence the intrinsic motivation of elementary school age children performing a motor skill?

Chapter III

Method

Subjects

The subjects were grade one students randomly selected from the Norwood School Division, which annually has a grade one population of 95 students. The Norwood School Division was a good representation of a school population as the division has four schools with grade one classes and it serves a diversified clientele: French speaking, French Immersion and English speaking students coming from a wide range of socioeconomic classes.

A total of 60 subjects, 30 boys and 30 girls, was included in the study. The subjects were randomly selected using a random number table. Each gender group was then randomly assigned, again using a random number table, to one of the two conditions (i.e. a moderate amount of positive verbal feedback and no feedback). The age of the subjects was approximately 6 years, their age in months was as follows: Both genders ($M=74.7$, $SD=3.7$), males ($M=75.8$, $SD=3.8$), females ($M=73.6$, $SD=3.3$), feedback groups ($M=75.3$, $SD=3.8$), no feedback groups ($M=74.1$, $SD=3.5$). These results are presented in table

1. Ensuring that the groups were similar in age and limited to approximately six years was important in this study due to the socialization effect as specified by Vallerand & Reid (1988).

Table 1

Mean Age of Subjects (Months)

	Mean	Standard deviation
Females	73.6	3.3
Males	75.8	3.8
Both genders	74.7	3.7
Feedback groups	75.3	3.8
No feedback groups	74.1	3.5

Letters of consent were sent to the School Division, the schools and the parents (Appendix A, B and C); and a description of the study was attached to these letters (Appendix D). Following the consent from their parents, the children were asked verbally if they would like to participate.

Experimenter

The primary experimenter was a female teacher at one of the four schools included in the study. She originally did not teach any of the students involved in the study. Immediately prior to the beginning of the study the experimenter was assigned one of the groups from her school. As a result the primary experimenter collected data at three schools and trained a second female experimenter to collect the data from her own students. Although this approach presented a possible experimenter effect the familiarity of the primary experimenter to the students was considered less desirable. The random assignment of subjects resulted in a relatively equal distribution of the subjects across the experimental cells (five in three of the cells and four in the other cell). As a result any possible experimenter effect would be negated.

Variables

In this study the independent variables were gender (i.e. male or female) and the presence or absence of positive verbal feedback given to the subjects performing a motor skill task. A moderate amount of positive verbal feedback or no feedback was applied. The moderate amount, 12 verbal reinforcements over 24 trials, was chosen arbitrarily based on Vallerand's (1983) research in which he concluded that positive feedback increases intrinsic motivation irrespective of the amount of feedback presented.

The dependent variable was the level of intrinsic motivation of the subjects and was operationally defined as time spent on task during a free choice period. A free choice period was the most appropriate measure of intrinsic motivation for this research for the following reasons: First, it was the most commonly used measure of intrinsic motivation, secondly, it had been used effectively in previous research and finally, the subjects' age made a written test difficult to obtain.

Equipment

The equipment used for the experiment included: a video camera and monitor, a stop watch, recording sheets, and the materials needed for the tasks (i.e. a mini-trampoline or rebounder, a bean bag target game, 5 hoops, and a deck tennis rings toss game).

Tasks

The tasks for the study were identified following consultation with the physical education teachers of the schools involved in the study. The three major criteria for the tasks involved were: 1) they had to be equally interesting for both genders, 2) they had to be optimally challenging, and 3) they had to be safe. This method of selecting the tasks was judged appropriate because the teachers were in the best position to know what tasks would meet these criteria for their students. Four tasks were identified: a bean bag target game, a deck tennis rings toss game, jumping on a mini-trampoline, and activities with hoops. The bean bag target game was used as the experimental task. The subjects were asked to throw, underhand, six bean bags at the target and to do so at four different distances: 1.5 metres, 2 metres, 2.5 metres and 3 metres. The other three tasks were the alternative tasks. (See Appendix E for a description of the tasks).

Procedures

In order to ensure that the children were in a familiar surrounding they were tested in their own school gymnasium using their school's equipment. Also, the physical education teachers were asked to use the four tasks as stations in one of their classes one week prior to the experiment. This approach was to ensure that none of the tasks were novel to the subjects. Furthermore, the experimenter visited the schools and was introduced to the grade one classes one week prior to the experiment.

A camera was hidden and pointed toward the area of the experimental task. The camera was used to collect the data, including the amount of time the children spent at the experimental task during the eight minute free choice period.

The children were taken one at a time to the gymnasium where the experimenter told them that, although there was other equipment in the gymnasium, they would only be using the bean bag target game for the test, and then explained what he/she would have to do. "I would like you to stand behind this line (1.5 metres line) and throw, underhand, those six bean bags at the target. You will have to do the same thing three more times, each time moving back to a different line." The explanation was followed with a demonstration. The children were told by the experimenter that she wanted to know how well they could throw the bean bags at the target from different distances. The no feedback group was told that the experimenter would not talk to them during the experiment because she was be too busy writing down their results. The feedback group was told that during the experiment the experimenter would write down their results. The experimenter carried a clipboard and wrote bogus comments during the experiment.

With the feedback groups, positive verbal feedback was given to the subjects. The feedback were comments like: "you are doing very well, way to go, good one", and more task specific comments like: "very nice throw, right on target". For the subjects in the French Immersion and the English schools the feedback was given in English, and for the subjects in the French school the feedback was given in French (see Appendix F for a complete list of the feedback). Following the completion of the task, the experimenter told the subject that she had to go to the office for a few minutes and that while waiting the subject could play with whatever equipment was in the gymnasium as long as they stayed in the gymnasium and waited for the experimenter to return because she had to get some information from the subject before they could go back to the classroom. The experimenter then left the gymnasium for eight minutes. After eight minutes the experimenter returned, asked the subject if the experimental task was fun or boring, and if it was too easy, too hard, or just okay (Appendix G). The experimenter then told the subject that his/her results would be given to him/her later after all the other students had been tested. The subject was then taken back to his/her classroom. Debriefing was done with all the subjects at the end of the entire experiment.

<u>Design and Data Analysis</u>

<u>Design</u> In order to assess the effects of gender and positive verbal feedback on intrinsic motivation, a 2 X 2 (male-female X no feedback-feedback) analysis of variance was carried out on the free choice period. The alpha level was set at .05.

Table 2

Experimental Design

Factor A		A1	A2
Factor B			
	B1	A1B1	A2B1
	B2	A1B2	A2B2

A1 is no feedback, A2 is with positive feedback, B1 is females, and B2 is males.

Data Intrinsic motivation was measured as the percentage of time that the subject spent at the experimental task during the eight minute free choice period $[\frac{\text{\# seconds on task}}{480} \times 100]$. The subject was considered involved in the task when he/she was throwing bean bags at the target. Inter-rater reliability was used to analyse the videotapes. Two individuals independently calculated the percentage of time that the subjects spent at the experimental task. One of these individuals was blind to the group to which each subject was assigned.

Chapter IV

Results and Discussion

Results

In order to assess the effects of gender and positive verbal feedback on intrinsic motivation, a 2 X 2 (male-female X no feedback-feedback) analysis of variance was carried out on the percentage of time that the subjects spent at the experimental task during the eight minute free choice period $\left[\frac{\text{\# seconds on task}}{480} \times 100\right]$. Results of the analysis revealed that the gender main effect, $F(1,56)=3.116, p<.05$, the treatment main effect, $F(1,56)=.049, p<.05$, and the gender X treatment interaction, $F(1,56)=1.986, p<.05$, were not significant. The means for each group are presented in table 3 and the results of the analysis of variance for intrinsic motivation measures are presented in table 4.

Two individuals independently calculated the percentage of time that the sixty subjects spent at the experimental task. One of these individuals was blind to the group to which each subject was assigned. The inter-rater reliability was calculated through a Pearson correlation, using all the subjects, and revealed a coefficient of 0.997. In cases where the two individuals

Table 3

Intrinsic Motivation Cell Means

		Factor B		
		Feedback	no feedback	Row mean
Factor A	Male	20.2	26.9	23.5
	Female	18.2	8.9	13.5
	Column mean	19.2	17.9	18.5

Table 4

Analysis of Variance for Intrinsic Motivation.

Source of variation	Sum of squares	Degrees of freedom	F-ratio	P
Gender(A)	1493.507	1	3.116	0.083
Treatment(B)	23.726	1	0.049	0.825
A X B	951.937	1	1.986	0.164
Error	26843.234	56		

reported different measures, the subject was analysed a third time by both raters and an average measure was calculated using the three measures, i.e. the initial measures by both raters and the third measure.

As gender was not a significant factor male and female subjects were then pooled together to provide a more powerful assessment of the feedback intervention. An independent t-test was performed to examine differences between the positive feedback group and the control group (no feedback group). This analysis revealed no significant effect, $t(58)=0.217$, $p<.05$, and indicated that the intervention did not affect the intrinsic motivation levels of the subjects. These results are presented in table 5.

Table 5

Independent T-Test of Intrinsic Motivation Measures by Feedback Groups (feedback versus no-feedback)

	Sample size	Mean	Sum of square	Variance
Group 1 (feedback)	30	19.16	15513.05	534.93
Group 2 (no feedback)	30	17.9	23391.86	475.02

T = 0.217 DF = 58 P = 0.829

Task In order to evaluate how the experimental task (bean bag target game) was perceived by the subjects, the subjects were asked two questions at the end of the experiment: First, was the bean bag target game fun or boring, and secondly, was it too easy, too hard, or just okay.

To the first question, fifty-four of the sixty subjects responded that the task was fun. Of the six that responded that the task was boring one subject was male from the feedback group while the other five were female, four from the feedback group and one from the control group. The results of this question are presented in table 6.

Table 6

Experimental Task Enjoyment Assessment

		Feedback group	No-feedback group	Both groups
Boys	Fun	14	15	29
	Boring	1	0	1
Girls	Fun	11	14	25
	Boring	4	1	5
All subjects	Fun	54		
	Boring	6		

To the second question, referring to task difficulty, forty of the sixty subjects indicated that the task was just okay. Ten subjects responded that it was too hard, three males and three females from the feedback groups, and one male and three females from the control groups. Ten subjects responded that it was too easy, two males and two females from the feedback groups, and six males from the control group. The results of this question are presented in table 7.

Table 7

Experimental Task Difficulty Assessment

		Feedback group	No-feedback group	Both groups
Boys	Too hard	3	1	4
	Too easy	2	6	8
	just okay	10	8	18
Girls	Too hard	3	3	6
	Too easy	2	0	2
	Just okay	10	12	22
All subjects	Too hard	10		
	Too easy	10		
	Just okay	40		

Finally, it was observed that subjects who did not find the task intrinsically motivating consisted of one-third of the sample population (n=22), however, these subjects were distributed relatively equally across the four experimental cells.

Skill level Based on previous literature (Vallerand, 1983; Blanck, Reis & Jackson, 1984; Vallerand & Reid, 1988) it was expected that the feedback groups would have a higher level of intrinsic motivation than the control groups and if not for both genders at least for the males. Even though the treatment effect and the gender effect were not significant in this study, an even more surprising fact was that the trend of the results appeared to be going against what would be expected for the males. Specifically, the males control group had a higher level of intrinsic motivation than the positive feedback group (see table 4). This result is in complete contrast with the female results.

In an effort to better understand these results, a 2 X 2 (male-female X no feedback-feedback) analysis of variance was performed on the number of successful throws, out of twenty-four attempt s by each subject while initially working at the experimental task with the experimenter. Results of the analysis revealed that the gender main effect was significant, $F(1,56)=5.292, p<.025$.

The initial success of males being greater than that of the females. The treatment main effect was also significant, $F(1,56)=9.049, p<.004$. The control group was more successful than the feedback group. The interraction was not significant, $F(1,56)=3.131, p<.05$. The means for each group are presented in table 8 and the results of the analysis of variance for initial success are presented in table 9.

Table 8

Initial Success Cell Means

		Factor B		
		Feedback	no feedback	Row mean
Factor A	Male	6.0	9.6	7.8
	Female	5.6	6.5	6.1
	Column mean	5.8	8.1	7.0

Table 9

Analysis of Variance for Initial Success on the Experimental Task

Source of variation	Sum of squares	Degree of freedom	F-ratio	P
Gender(A)	45.067	1	5.292	0.025
Treatment(B)	77.067	1	9.049	0.004
A X B	26.667	1	3.131	0.082
Error	476.933	56		

These findings are somewhat surprising as it was expected that the random assignement of subjects to the experimental groups would have resulted in groups of similar initial success on the experimental task. On the basis of these findings, a 2 X 2 (male-female X no feedback-feedback) analysis of covariance was performed on the percentage of time that the subjects spent at the experimental task during the eight minute free choice period with the initial success of the subjects when working with the experimenter as the covariate. This analysis was performed in order to determine whether the initial success of the subjects had a significant influence on their intrinsic motivation. The results of the analysis produced no significant effects and are presented in table 10.

Table 10

Analysis of Covariance for Intrinsic Motivation with the Initial Success of the Subjects as the Covariate.

Source of variance	Sum of squares	Degrees of freedom	F-ratio	P
Gender (A)	837.046	1	1.764	0.190
Treatment (B)	215.645	1	0.454	0.503
A X B	564.240	1	1.189	0.280
Performance	742.837	1	1.565	0.216
Error	26100.398	55		

Discussion

One of the purposes of this study was to clarify the conflicting results of previously reported research. Gender differences have been reported in the way positive verbal feedback affects the intrinsic motivation of males and females. On this basis it was hypothesized that: 1) males' intrinsic motivation would increase following a moderate amount of positive verbal feedback, and that 2) females' intrinsic motivation would not change following a moderate amount of positive verbal feedback.

The first hypothesis was not supported in the present study. The results do not support what has been consistently reported in previous research (Deci, 1975; Zinser et al., 1982; Blanck et al., 1984; Vallerand & Reid, 1988; Whitehead & Corbin, 1991) where positive verbal feedback was found to increase males' intrinsic motivation. With regard to the second hypothesis, the results of this study supported the hypothesis and the results were consistent with what was reported by Deci (1975) that is, females intrinsic motivation did not change following a moderate amount of positive verbal feedback. However, the fact that the overall results produced no significant differences between the feedback group and the control group is contrary to the published research.

One possible explanation for the findings of the present study could revolve around the verbal feedback utilized. The type of feedback, the way the feedback was given, the context in which it was given, and the individual it was given to, are all factors that could have influenced its effect on intrinsic motivation. However, a moderate amount of feedback as described by Vallerand (1983) was appropriate for the age group (thirteen to sixteen years old) in his study. It is possible that six year olds might need more reinforcement. Alternatively, due to the age of the subjects, the feedback might have to be applied in a more dynamic manner. Since there is a very limited amount of reported research conducted with six year old subjects, and no research reported using motor skill tasks, these possible explanations are simply speculation.

Another factor one has to consider in the results of the present study is the initial success of the subjects at the experimental task while working with the experimenter. The possible influence of success on intrinsic motivation could be explained through cognitive evaluation theory which states that perceived competence would enhance intrinsic motivation (Deci & Ryan, 1985). However the analysis of covariance revealed that the initial success of the subjects had no significant effect on intrinsic motivation.

Vallerand & Reid (1988) interpreted the conflicting results reported on the effect of positive verbal feedback on the intrinsic motivation of male and female subjects by suggesting that changes in socialization practice may have taken place over the years, making both genders more similar in their reactions. However, they speculated that these changes may have occured only for females who have interacted in an achievement-oriented setting. Females who have not yet engaged in such a setting, such as young children, would still be subject to "traditionnal" socialization practice. One of the goals of the present study was to examine this assumption by using young children as subjects. The socialization experience of young males and females might be more similar in the 1990's than in previous decades, but this is a difficult concept to measure. The findings of the present study does not support a differential socialization explanation.

The choice of tasks for the present study was unique as no other study has been conducted using the type of motor skill found in elementary school physical activity classes. Previous researchers used a stabilometer (Vallerand & Reid, 1988), soma puzzle (Deci, 1972), and pen and paper games (Zinser et al.' 1982; Blanck et al., 1984). Two assumptions were made with regard to the tasks used in this study. The first assumption was that the tasks were equally interesting for both genders and the second that all the tasks were optimally challenging for grade one boys and girls. These assumptions appeared to be very accurate as the behavior of the vast majority of the subjects would be characterized by movement from one task to another throughout the free choice period. Only one subject sat throughout the free choice period without playing with any of the tasks. It appears from the "evaluation" of the experimental task by the subjects that the choice, for the experimental task was appropriate. It was described by ninety percent of the subjects (83% of the females and 97% of the males) as "fun". The task was also found to be optimally challenging by two-thirds of the subjects while the other one-third were evenly divided by those who found the task "too hard" and those who found it "too easy". As approximately, one-third of the subjects (n=22) failed to find the task intrinsically motivating it is possible that the experimental setting was perceived to be "controlling". According to cognitive evaluation theory controlling events undermine intrinsic motivation. The fact that the experimenter was a relative stranger and the one on one approach may have facilitated a "controlling" perception by the subjects.

The eight minute free choice period was the approach selected to measure intrinsic motivation in the present study, but there was some concern with regard to the applicability of leaving a six year old student alone in a gymnasium for eight minutes. This study demonstrated that it was possible to use this measurement effectively with young children in that type of setting.

In the present study the experimenter was female. From all the studies reviewed only one addressed the possible implication of the sex of the experimenter (Blanck & Reis, 1984) and they reported that it did not substantially alter the pattern of results. There was no indication to suggest that the sex of the experimenter had any effect on the results of the present study.

Eleven of the sixty subjects in the present study were French Canadian and the verbal feedback was given to them in French. This was done in order to be consistent with the way the treatment was applied, that is by testing all the subjects in their own mother tongue. There was no evidence to suggest that this had any influence on the overall results of this study. That is, the random assignment placed French students in every experimental cell.

The findings in the present study contributed to this field of study in three ways. First, it provided the first research on the effect of positive verbal feedback on intrinsic motivation using the motor skills required in the elementary school physical education setting. Secondly, it supported the applicability of the eight minute free choice period in a physical education gymnasium setting. Finally, it critically examined the influence of gender and the effect of positive verbal feedback on the intrinsic motivation of elementary school age students. As a result, this study demonstrated that a moderate amount of positive verbal feedback had no effect on the intrinsic motivation of six year old boys and girls performing a motor skill.

Chapter V

Summary and Conclusions

Summary

The main purpose of this study was to explore the relationship between positive verbal feedback and intrinsic motivation of grade one boys and girls peforming a motor skill. Of specific interest was to determine whether there was a gender difference. Intrinsic motivation was operationalized by measuring the percentage of time that the subject spent at the experimental task (bean bag target game) during an eight minute free choice period. The data were collected during a one week period and sixty grade one students, thirty boys and thirty girls, were included in the study.

A 2 X 2 (male-female X no feedback-feedback) analysis of variance was carried out on the intrinsic motivation measures and the results revealed no significant effects. Males and females were pooled together to evaluate the feedback effect. An independent t-test was performed between the feedback group and the control group. The results revealed no significant effect. Information on the initial success of the subjects during the time spent working with the experimenter was also recorded (number of successful throws from twenty-four trials). A 2 X 2 (male-female X no feedback-feedback) analysis of variance was performed on this data. The results revealed a significant gender main effect. The initial success of males was found to be greater than that of the females. A significant treatment main effect was also revealed with the control group being more successful than the feedback group. Following these findings a 2 X 2 (male-female X no feedback-feedback) analysis of covariance was performed with the initial success as the covariate. The results were not significant.

Conclusions

1. A moderate amount of positive verbal feedback has no effect on the intrinsic motivation of elementary school age children performing a motor task.

2. Males and females do not differ in the way positive verbal feedback affects their intrinsic motivation.

3. The initial success of the subjects at the experimental task had no influence on their intrinsic motivation.

Recommendations

1. Further study is required to assess the role of positive verbal feedback on the intrinsic motivation of elementary school age children performing the motor skills found in elementary school physical education classes.

2. Future studies should attempt to determine the influence of providing positive feedback in a more dynamic manner.

3. Future studies might explore the influence of providing more information to the subjects on how to improve performance on the experimental task rather than providing merely motivational "feedback".

References

Blanck, P.D., Reis, H.T., & Jackson, L. (1984). The effects of verbal reinforcement on intrinsic motivation for sex-linked tasks. Sex Roles, 10, 369-387.

Deci, E.L. (1972). Intrinsic motivation, extrinsic reinforcement, and inequity. Journal of Personality and Social Psychology, 22, 113-120.

Deci, E.L. (1975). Intrinsic motivation. New York: Plenum.

Deci, E.L. (1978). Intrinsic motivation: Theory and application. In: D.M. Landers and R.W. Christina (Eds.) Psychology of Motor Behavior and Sport-1977. Champaign, III.: Human Kinetics Publishers, 388-402.

Deci, E.L., & Ryan, R.M. (1985). Intrinsic motivation and self-determination in human behavior. New York: Plenum.

Fitzpatrick, D.A. (1989). The socialization goal of Manitoba public school physical education, 1945 to 1958. Unpublished masters thesis, University of Manitoba, Winnipeg, Manitoba.

Mackie, M. (1983). Exploring gender relations: A Canadian perspective. Toronto: Butterworths.

Ryan, R.M., Vallerand, R.J., & Deci, E.L. (1984). Intrinsic motivation in sport: A cognitive evaluation theory interpretation. In W.F. Straub & J.M. Williams (Eds.) Cognitive Sport Psychology. Lansing, NY: Sport Science Associates, 231-242.

Staniford, D.J. (1984). Play and physical activity in early childhood socialization. CAHPER Sociology of Sport Monograph Series. Ottawa.

Vallerand, R.J. (1983). The effect of differential amounts of positive feedback on the intrinsic motivation of male hockey players. Journal of Sport Psychology, 5, 100-107.

Vallerand, R.J., & Halliwell, W.R. (1983). Formulations theoriques contemporaines en motivation intrinseque: Revue et critique. Psychologie Canadienne, 24, 243-256.

Vallerand, R.J., & Reid, G. (1984). On the causal effects of perceived competence on intrinsic motivation: A test of cognitive evaluation theory. Journal of Sport Psychology, 6, 94-102.

Vallerand, R.J., & Reid, G. (1988). On the relative effects of positive and negative verbal feedback on males' and females' intrinsic motivation. Canadian Journal of Behavior Science, 20, 239-250.

Vallerand, R.J., & Reid, G. (1990). Motivation and special populations: Theory, research, and implications regarding motor behaviour. Problems in Movement Control. City: Publishing Company Elsevier Science Publishers B.V. North-Holland, 159-197.

Whitehead, J.R., & Corbin, C.B. (1991). Youth fitness testing: The effect of percentile-based evaluative feedback on intrinsic motivation. Research Quaterly for Exercise and Sport, 62, 225-231.

Zinser, O., Young, J.G., & King, P.E. (1982). The influence of verbal reward on intrinsic motivation in children. Journal of General Psychology, 106, 85-91.

APPENDICES

Appendix A

The University of Manitoba

Faculty of Graduate Studies

(204) 474-8764

Dear Mr (Superintendent)

My name is Gaetane Tremblay I am a physical education teacher in the Norwood School Division. I am presently completing a Master of Science degree in sport psychology at the University of Manitoba. As part of the requirements for my degree, I am expected to conduct a research study. I will need to test 60 grade one students, 30 boys and 30 girls.

I am requesting your permission to select the students from schools in the Norwood School Division. You will find attached all the details for the study.

Thank you,

Gaetane Tremblay

Appendix B

The University of Manitoba

Faculty of Graduate Studies

(204) 474-8764

Dear Mr./Ms (Principal),

My name is Gaetane Tremblay and I am a physical education teacher in the Norwood School Division. I am presently completing a Master of Science degree in sport psychology at the University of Manitoba. As part of the requirements for my degree, I am expected to conduct a research study. You will find attached a description of the study.

I have obtained permission from your Board Office to conduct my research study in the Norwood Division. I am requesting your permission to come to your school and work with some of your grade one students.

Thank you,

Gaetane Tremblay

The University of Manitoba
Faculty of Graduate Studies
(204) 474-8764

Cher M.(directeur),

Je complète présentement une maîtrise en psychologie du sport à l'université du Manitoba. Une des exigences pour l'obtention de mon diplôme est d'effectuer une recherche, dont vous trouverez une description ci-jointe.

En juin dernier, j'ai obtenu la permission de notre bureau divisionnaire pour compléter ma recherche avec des élèves de la division de Norwood. J'aimerais par la présente, vous demander la permission de venir tester certains de vos élèves de première année.

Sincèrement votre,

Gaétane Tremblay

Appendix C

The University of Manitoba

Faculty of Graduate Studies

(204) 474-8764

Dear Parent(s),

My name is Gaetane Tremblay and I am a physical education teacher in the Norwood School Division. I am presently completing a Master of Science degree in sport psychology at the University of Manitoba. As part of the requirements for my degree, I am expected to conduct a research study. You will find attached all the details for the study.

The purpose of this letter is to request your permission to have your child participate in the study.

Thank you for your support,

Gaetane Tremblay

The University of Manitoba

Faculty of Graduate Studies

(204) 474-8764

Chers parents,

Je suis enseignante à l'école Queen Elizabeth depuis 10 ans et je complète présentement un maîtrise a l'université du Manitoba. Une des exigences pour l'obtention de mon diplôme est de compléter une recherche, dont vous trouverez une description ci-jointe.

Je serai à l'école Précieux-Sang le 1er octobre pour tester des élèves de première année. Toutes communications avec les élèves seront faites entièrement en francais. Je vous demande aimablement votre collaboration en permettant à votre enfant de participer à ma recherche.

Sincèrement votre,

Gaétane Tremblay

Appendix D

The University of Manitoba

Faculty of Graduate Studies
(204) 474-8764

The Effect of Positive Verbal Feedback on
the Intrinsic Motivation of Grade One Boys and Girls
Performing a Motor Skill

Description of the Study

Reasons for the Study

It is important for physical educators, coaches, teachers and parents working with young boys and girls to understand how positive verbal feedback affects intrinsic motivation in order to enhance the youngsters' enjoyment of physical activity. A very limited amount of research as been undertaken with elementary school children and no research has been reported with motor skills. In addition, the small amount of research completed has produced conflicting results. This study is needed to clarify and extend our knowledge of the effects of positive verbal feedback on the intrinsic motivation of elementary school children performing a motor skill.

Purpose of the Study

This study seeks to determine whether positive verbal feedback has a differential influence on the intrinsic motivation of grade one boys and girls performing a motor skill.

Measurements and Procedures

The study involves the measurement of the subjects' level of intrinsic motivation through an eight minute free time period. Each student will be taken one at a time to the gymnasium where the experimenter will have him/her perform a motor skill: throw 6 bean bags at a bean bag target game four times at four different distances. The student will then be left "alone" (the experimenter will leave the gymnasium) for an eight minute free time period during which time the student will be videotaped (The student will be observed during this period by a television monitor to ensure safety). During that period the student will have the option to play with the bean bag target game or to play with other "selected" equipment available in the gymnasium. At the end of the eight minute period the experimenter will return and the student will be taken back to his/her classroom.

Confidentiality

Information collected in this study will be confidential. A student's identity will not be released without prior written permission from the student and his/her parent(s). Data gathered on all participants will be treated in aggregate (group) form (i.e., individual values will not be reported). The group (sex) assessment is of relevance in this study not individual results. To protect the identity of students, a code number will be assigned to each participant and used when analysing the data.

Retention of Data for Use in Future Studies

Data will be retained for future use should a follow-up study be conducted. Confidentiality terms (as described above) with respect to use of data from this study will be honoured.

Inconveniences and Anticipated Time Commitment for Subjects

The subjects will be tested at their school during school hours. The entire procedure will take approximately 20 minutes for each student.

Rules for Stopping the Study and/or for Withdrawing a Subject

A subject will be withdrawn from the study if he/she does something unexpected and judged unsafe by the experimenter during the eight minute free time period (i.e., go up the climbing frame), or if the subject fails to remain in the gymnasium during that same period.

Subject's Right to Withdraw from the Study

Each subject and his/her parents have the right to deny consent or withdraw from the study at any time without prejudice.

Benefits for Students and Parents

A better understanding of the effects of positive verbal feedback on the intrinsic motivation of young boys and girls can improve the effectiveness of teachers, or any other individual who works with this age group.

Consent Form

I have read the description of the study and understand the measurement procedures involved.

I understand that I may withdraw my child or my child may withdraw from the study at any time without prejudice.

All information will be kept confidential.

Date	Participant
Parent/Guardian's Signature	Witness

Appendix E

Description of Tasks

Experimental task

Bean bags target game: The subject will be asked to throw, underhand, six bean bags at the target. The six bean bags will be thrown four times at four different distances: 1.5 metres,2 metres, 2.5 metres and 3 metres for a total of 24 throws.

Alternative tasks

Mini-trampoline: The subject could jog or jump on the mini-trampoline.

Hoops: Five hoops will be available to the subjects. The subjects could roll them, jump in them, throw them, etc.

Deck tennis rings game: A five peg game will be used. The subject could throw the rings at different distances in the manner of his/her choice.

Appendix F

List of Verbal Reinforcement

English reinforcements:	French reinforcements:
You are doing very well!	Tres bien!
Way to go!	Bon lance!
Good one!	Excellent!
Excellent!	Bien fait!
Nice throw!	Continu tu fais tres bien!
Right on target!	Bon essai!
Very good!	Super!
Good job!	Bravo!
Keep up the good work!	Parfait!
Nice try!	Tres bon lance!
Good try!	Tres bon essai!
Great throw!	

* A variety of these comments will be used depending on what the subject is doing.

Appendix G

Recording Sheet

Sex of subject:_____ Group: _______

Comments:

__You are doing very well

__Way to go

__Good one

__Excellent

__Nice throw

__Very good

__Good job

__Keep up the good work

__Nice try

__Good try

__Great throw

__Right on target

Evaluation of the task by the subject:

__Fun

__Boring

__Too easy

__Too hard

__Just okay

Performance at task:

				Total
___	___	___	___	___
6	6	6	6	24

Appendix H

Raw Data Collected for the Study

Case	Gender	Treatment	Intrinsic Motivation	Age	Initial Success
1	F	no feedback	0.00	76	11
2	F	no feedback	0.00	68	2
3	F	no feedback	0.00	69	8
4	F	no feedback	48.13	75	11
5	F	no feedback	23.33	79	6
6	F	no feedback	16.88	75	4
7	F	no feedback	0.00	74	7
8	F	no feedback	21.46	72	6
9	F	no feedback	0.00	70	4
10	F	no feedback	6.88	74	9
11	F	no feedback	0.00	68	9
12	F	no feedback	8.96	73	6
13	F	no feedback	0.00	73	5
14	F	no feedback	0.00	70	5
15	F	no feedback	8.33	75	5
16	F	feedback	0.00	71	8
17	F	feedback	6.04	73	7
18	F	feedback	40.63	80	4

Case	Gender	Treatment	Intrinsic Motivation	Age	Initial Success
19	F	feedback	36.88	79	3
20	F	feedback	56.25	78	12
21	F	feedback	0.00	73	6
22	F	feedback	1.29	72	5
23	F	feedback	0.00	77	8
24	F	feedback	0.00	76	2
25	F	feedback	6.88	75	6
26	F	feedback	18.75	74	4
27	F	feedback	43.54	72	8
28	F	feedback	35.83	70	2
29	F	feedback	8.54	77	5
30	F	feedback	17.70	71	4
31	M	no feedback	0.00	73	12
32	M	no feedback	54.38	78	13
33	M	no feedback	81.25	73	13
34	M	no feedback	17.50	79	10
35	M	no feedback	3.54	82	13
36	M	no feedback	43.54	73	6
37	M	no feedback	31.46	77	9
38	M	no feedback	26.88	77	7
39	M	no feedback	0.00	73	4
40	M	no feedback	49.17	76	13
41	M	no feedback	0.00	69	4

Case	Gender	Treatment	Intrinsic Motivation	Age	Initial Success
42	M	no feedback	51.25	79	7
43	M	no feedback	0.00	74	10
44	M	no feedback	28.54	73	15
45	M	no feedback	15.63	76	8
46	M	feedback	17.50	72	6
47	M	feedback	72.92	70	6
48	M	feedback	13.33	78	9
49	M	feedback	0.00	79	3
50	M	feedback	28.13	69	10
51	M	feedback	73.33	79	4
52	M	feedback	61.04	78	4
53	M	feedback	2.50	74	6
54	M	feedback	0.00	76	10
55	M	feedback	10.63	69	8
56	M	feedback	23.13	78	7
57	M	feedback	0.00	79	7
58	M	feedback	0.00	77	7
59	M	feedback	0.00	84	1
60	M	feedback	0.00	79	2

Total observations: 60

	Intrinsic motivation	Age	initial success
Number of cases	60	60	60
Minimum	0.000	68	1
Maximum	81.250	84	15
Mean	18.533	74	6.933
Standard deviation	22.289	3.679	3.257

* Intrinsic motivation is in percentage of time

** Age is in months

*** Initial success is the number of successful throws