

Department of Human Kinetics

Honours Program

2021-2022

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IMPORTANT DATES FOR CURRENT HONOURS STUDENTS

****All course materials can be found on the honours course webpage:**

<http://people.stfx.ca/smackenz/Courses/Honours/>

Meeting and Presentation times for 2021-2022 Honours Students:

We will meet **on scheduled** Wednesdays, 1:15-2:15. We have a classroom booked in KMC, however, we will meet virtually in the beginning. A link will be sent to your stfx emails.

October/November 2021

Proposal presentations will occur

*Students along with advisors choose a presentation date and schedule with co-coordinators

Monday November 15 2021 (by 5pm AST).

Students MUST submit electronic copy of supervisor and co-supervisor approved proposals via email to co-coordinators.

Fall 2021 –before the scheduled Christmas Break.

Students MUST submit REB application

March-April 2022 (or prior depending on project)

Student final defence presentations will occur

Mid-to End of March 2022

APES+ Conference at UNB, pandemic pending—could be virtual.

Mid-to End of March 2022

Student Research Day @ STFX, pandemic pending- could be virtual. Students will create a research poster to disseminate their thesis project.

Friday April 15. 2022

Students should submit final copy of thesis to Honours Program Co-coordinators (via email and in PDF format)

HONOURS PROGRAM: OVERVIEW

1. APPLICATION:

Candidates for the Honours degree program apply to the Chair of the Human Kinetics Department for admission as early as the end of their sophomore year.

Emails of acceptance are typically sent mid-June to mid-August from the Dean of Science.

Qualified applicants may be admitted to the Honours program at the end of their junior (third) year or beginning of senior (fourth) year if a faculty member agrees to supervise the student.

2. SELECT AN ADVISOR:

During their junior (third) year of study, students should meet with several faculty members to determine an appropriate advisor with common research interests.

Potential topics related to Human Kinetics include: physical activity, physical fitness, health, psychology, nutrition, metabolism, growth and development, physiology, biomechanics, sociology, ethics, gender, history, philosophy, adapted physical education, adapted physical activity, physical education, motor learning, sport, etc.

Students should have a faculty advisor selected before they leave for the summer of their third year and the "Advisor Form"

(<http://people.stfx.ca/smackenz/Courses/Honours/Advisor%20Form.pdf>) completed and submitted to the Honours Program Co-Coordinators.

Note: All this information will be shared with students at the Honours Information Meeting (typically scheduled in April)

3. INTENT OF THE STUDY:

Students declare the "INTENT OF THE STUDY" (Appendix B and available on-line at <http://people.stfx.ca/smackenz/Courses/Honours/> through the courses link) after consultations with their selected faculty advisor no later than the beginning September of their 4th year.

Students are encouraged to start their work as soon as possible. However, **students cannot begin to collect data until REB approval has been secured and they have presented their proposal presentation.**

Students admitted to the Honours program at the end of their third or beginning of their fourth year declare the "INTENT OF THE STUDY" after consultations with their selected faculty advisor no later than September 10th.

The "INTENT OF THE STUDY" should contain:

- title of the study
- problem statement
- suggested Second Reader

The "INTENT OF THE STUDY" form should be submitted to the Honours Program Co- Coordinators Drs. MacKenzie and Weaving

4. COURSE REGISTRATION:

Students register for HKIN 491 and HKIN 493 in their senior (fourth) year.

There is no credit for HKIN 491: Senior Seminar.
Students will meet weekly or bi-weekly **as needed** in a seminar format to learn about REB, pursuing research at the Masters' level, the dissemination of their research projects and other topics. Each student will present his or her thesis proposal and completed thesis project (i.e., defense) in the Human Kinetics Seminar Series.

Three credits and a grade are given for HKIN 493: Honours Thesis.

This course will represent the written research project undertaken by the student.

The following format is used as a general guideline to determine grades in HKIN 493:

85%- a grade assigned by the primary supervisor

15%- a grade assigned by the Honours Co-Coordinators based on the following criteria:

The supervisor/co-advisor's assigned grade can be based on the following:

- (a) Student's ability to meet deadlines/timelines established by the supervisor/co-advisor
- (b) Lit Review
- (c) Proposal
- (d) Ability to conduct research
- (e) Ability in the lab
- (f) Writing improvement
- (g) Ability to incorporate feedback
- (h) Independence
- (i) Participant recruitment
- (j) Interaction with participants
- (k) SRD Poster
- (l) Final Defense
- (m) Referencing

(n) Overall attitude

Feedback:

After each proposal and defence, students will receive a compilation of anonymous feedback from faculty.

5. PROPOSAL:

Once approved by the students' faculty advisor and second reader (second readers should receive the proposal and defense prior to presentations), an electronic copy of the research proposal should be submitted **no later than November 15th** to the Honours Program Coordinators (Drs. Sasho MacKenzie and Charlene Weaving).

Normally, the research proposal includes:

- title page
- introduction
- review of literature
- purpose
- hypothesis (when applicable)
- proposed methodology (sample, measurement tools, data analysis, research plan)
- appendices (measurement tools, consent forms, etc.)

Role of the Second Reader-:

- a) The role and importance of 2nd readers is a Senate mandate
- b) 2nd reader should get the 'paper' or ppt. slides one week before the proposal/defense
- c) 2nd reader should provide feedback at least two days before the scheduled proposal/defense
- d) 2nd reader should ensure the study is clear, appropriate, and methodologically sound.
- e) If 2nd reader receives ppt. slides, they are also required to review a draft of the completed proposal prior to the November 15 and the April 15 deadline
- f) We will create a 'signing off sheet' for students and second readers to sign to acknowledge receipt of feedback The 2nd reader should be qualified and knowledgeable

Proposal Presentation

Each student will formally present his or her proposal in a 10-minute oral presentation followed by 5-minutes of questions in the Human Kinetics Seminar Series before the end of the fall term.

The thesis proposal presentations must occur prior to data collection.

6. ETHICAL APPROVAL:

Prior to data collection and after thesis proposal presentation, ethical approval must be obtained from the Human Kinetics Research Ethics Board (REB) for all research involving human participants.

Only studies in which data will be collected unobtrusively (i.e., document analysis) or that involve research on animals do not follow this process. **Please see section on REB.**

7. HONOURS THESIS DEFENSE:

All candidates for the Honours degree program must complete and present their thesis before the end of the spring term.

A final draft of the thesis should be given to the faculty advisor and reviewed by the second reader.

This draft should include:

- title page
- revised introduction, review of literature, purpose, hypothesis, methodology (sample, measurement tools, data analysis, research plan)
- analysis/ results
- discussion (if applicable)
- conclusion and future recommendations
- appendices (measurement tools, information letter and consent form, etc.)

Final Defense:

Each student must make a 15-minute oral presentation and respond to 10-minutes of questions regarding her or his thesis (i.e., defense) prior to the end of the spring term in the Human Kinetics Seminar Series.

8. HONOURS THESIS REVISION AND SUBMISSION:

After their oral presentation and defense of the thesis, students will prepare a final written copy.

The final written copy must be approved by the student's faculty advisor and second reader.

Once approved, one PDF copy should be submitted to the Honours Program Coordinators **no later than April 15th**.

Four bound copies of the thesis will be made by the department (one copy for the student, department, advisor, and library).

9. DATA COLLECTION DURING THE SPRING OR SUMMER FOLLOWING A STUDENT'S JUNIOR (THIRD) YEAR

Students are encouraged to follow the timeline previously described. However, under special circumstances, a student may collect data during the summer following their junior (third) year. If this route is chosen, then the following timeline should be adhered.

- Prior to collecting data, the student must propose their thesis project to the Faculty. And apply for HKIN REB (if applicable). Special sessions will be scheduled (April, May, or June) as needed.
- Once approved by the faculty advisor and second reader, an electronic copy of the written research proposal should be submitted to the honours program coordinator

SELECTING A THESIS ADVISOR AND THESIS TOPIC

Once admitted to the Honours program, students need to select a thesis advisor and topic. Normally this should be accomplished by the end of your third year.

First consider your areas of interest within the field of Human Kinetics. Potential topics related to Human Kinetics include: physical activity, physical fitness, health, psychology, nutrition, metabolism, growth and development, physiology, biomechanics, sociology, ethics, history, philosophy, adapted physical education, adapted physical activity, physical education, motor learning and control, sport, etc.

Second, consider faculty members' research interests (generally [but not always] these relate to the courses they teach) and how these mesh with your areas of interest.

Contact faculty members who potentially share your research interests and with whom you would like to work. Discuss with these potential advisors their "philosophy" of supervision: some faculty members, for example, assign topics to the student related to their own research programs, while others prefer students to develop their own projects. In order to ensure that you are able to work with the faculty member of your choice, the earlier you begin the selection process the better.

Keep in mind that the number of Honours students is increasing and there is a limit to the number of students one faculty member can advise. You should also keep in mind that some faculty members may be on a sabbatical leave and not be available for thesis supervision.

Once you have selected an advisor and the faculty member has agreed to supervise you as an Honours student, you should complete the Advisor Form (Appendix A and available on line at www.stfx.ca/people/smackenz through the courses link), have the faculty member sign it and submit it to the Honours Program Coordinator (Drs. Sasho MacKenzie and Charlene Weaving).

There is an opportunity to meet potential advisors at the honours information session scheduled in April of each year.

FACULTY MEMBERS' RESEARCH INTERESTS

The research interests of the Human Kinetics faculty members are described in the broadest possible sense to encourage flexibility in the selection process and to promote creative communication between the faculty and students.

A. CASEY

Adapted physical activity
Adapted physical education

S. HARENBERG

Sport Psychology

D. KANE

Exercise Physiology, metabolism

A. KOLEN

Physical activity and physical fitness in children and adolescents
Body image, social physique anxiety, and eating disorders in physically active populations

M. LAM

Motor control/learning

S. MACKENZIE

Biomechanics of sport

O. NZINDUKIYIAMANA

History and sociology of sport

R. RASMUSSEN

Exercise physiology - cardiac rehabilitation

R. REID

Exercise physiology

D. VOSSEN

Philosophy of Sport, spirituality and sport

C. WEAVING

Gender and philosophy/ethics of sport and physical activity and Olympism

OTHERS*:

T. SUTHERLAND

Athletic therapy

J. VOSSEN

Exercise and training related topics

* When working with these individuals, a Human Kinetics Faculty member must act as a Co-Supervisor and a Second Reader is not required.

FACULTY MEMBERS OF OTHER DEPARTMENTS

In some cases, honours research projects may cross departments (e.g. Psychology and Human Kinetics). In these cases, a Human Kinetics faculty member must act as a Co-Advisor.

WRITING THE PROPOSAL FOR YOUR THESIS

1. **Title** (maximum - 15 words)
 - a brief, descriptive title is preferred
 - in your title, identify key variables or techniques and provide some information about the scope of the study,
 - your title can be modified for your final thesis

2. **Introduction** – the opening section of your proposal (1/2-1 page)
 - briefly introduces the problem
 - combines current knowledge (literature) with what you propose to do (what will be investigated in this study) with a rationale or reasoning for the study

3. **Review of literature**
 - organize the literature review as it relates to the content of the study and proposed methods
 - use only the most relevant and recent sources of information
 - use subheadings as needed; each paragraph should be able to stand on its own and should directly relate to the topic under study
 - gaps in the knowledge should emerge – and justify your rationale for the proposed study

4. **Statement of the problem/Purpose of the study** (1 sentence or paragraph)
 - the review of literature should clearly lead to the research question ... or purpose of the study (i.e., it should become obvious to the reader what you will be doing and why you will be doing it)
 - explains what will be done in this study
 - explains why the study will be done (what potential impact the results of the study will have, i.e., significance of the study)
 - clear, concise, and definite
 - you may repeat terms and variables from your title, for example:
 - The purpose of this study is to investigate the relationship of success and cohesion in male varsity basketball players.
 - This study will determine the factors that motivate male referees to continue their participation as referees with Soccer Nova Scotia.

5. **Hypothesis** (if applicable)
 - the hypothesis is a conjectural statement of the relationship – or non-relationship between two or more variables
 - characteristics of the hypothesis:
 - based on theory or previous knowledge
 - simple, clear statements without vague terms
 - testable, i.e., there is the possibility of being refuted

- related to design, procedure, and statistical analysis
- directional or non-directional
- generally hypotheses are stated in positive terms, for example:
 - Successful basketball teams will have a higher level of cohesion.
 - Individuals with an internal locus of control will perceive less stress than those with an external locus.
- some hypotheses predict no differences, for example:
 - There will be no differences in levels of physical activity during the MAX program between boys and girls with developmental delay.
 - It is expected that the attitudes of Kinesiology and Pre-Education students will not differ on the pre-test scores.
- thesis proposals that follow a qualitative research design typically do NOT present “a priori” hypotheses but later formulate a hypothesis based on the findings of the study

6. Limitations and Delimitations

- Limitations
 - identify the weaknesses of the study
 - includes things the researcher cannot control
 - only things that might affect the acceptability of the research should be included, for example:
 - This study will be limited by the small sample size.
 - Daily physical activity will not be monitored in this study; only the activity that occurs during the structured gymnasium program will be measured.
- Delimitations
 - relates to the scope of the study and is usually set by the researcher
 - subjects
 - duration of the study
 - only things that might affect the acceptability of the research should be included, for example:
 - This study will be limited to male varsity basketball players in the Atlantic University Conference.
 - This study will be limited to the physical activity engaged in during the MAX program.

7. Definition of terms (if applicable)

- if you are using new or unfamiliar terms – or research techniques, you should include a separate section that defines them. Use references where applicable.

8. Methods

- subjects
 - how many
 - how recruited/selected

- age, sex, and other relevant descriptors (height, weight, etc.)
- group assignment process (if applicable)
- procedures
 - description of techniques/questionnaires to be used – include reliability and validity
 - must be reproducible
- data analysis
 - proposed analysis – select statistics to be used
 - difficult or unusual techniques should be explained
- research design/plan
 - briefly outline the course of action, for example:
 - Fitness testing will occur before and after the 10-week physical activity program.
 - Cohesion will be measured twice; once in the preseason and once immediately after the completion of regularly scheduled games.

9. Reference list

- include all references cited in text
- do NOT include references NOT cited
- see also section titled “Citing References and Reference Lists” on page 15 format?

10. Appendices

- questionnaire(s) to be used
- other necessary materials such as lengthier explanations of research protocols, data analysis techniques, etc.

11. Other

- double space your document
- include page numbers
- set margins at standard setting
- use a Serif Font
- use 12-point font
- follow the format suggested in the Publication manual of the American Psychological Association (APA Manual) for headings, references (in text and reference list), etc.
- **NOTE:** Adhere to your advisor’s guidelines regarding formatting.

12. Suggested Timing

- Give the first draft of your completed proposal* to your advisor.
- Revise and then resubmit to your advisor and second reader.
- Keep in mind that several days should be allowed for each submission.
- Both should have electronic copies of this approved proposal at least one week prior to proposal presentation.

- An electronic copy of the revised and approved thesis proposal should be given to the Human Kinetics Honours Program Coordinators (Drs. MacKenzie and Weaving) by November 15

* Some advisors may prefer to work with smaller “chunks” or sections of your thesis. Discuss this process with your selected advisor.

**Students should also refer to the HKIN Honours Program Website for course materials.

QUALITATIVE-THEORETICAL APPROACH

- Slightly different approach / set up with studies that involve theoretical analysis. Theoretical approaches do not typically contain surveys, questionnaires, or statistical analysis, but could include interview data.

There is not substantial difference between the set-up or requirements compared to research projects that follow a quantitative design; however, a few modifications are necessary. These guidelines should be used in conjunction with the previous section “**Writing the proposal for your thesis.**” The modifications are indicated by an “*”:

1. **Introduction** (1/2-1 page)
2. * **Review of Literature**
3. * **Thesis Statement** or **Purpose** of study (maximum 1 paragraph)
4. **Limitations**
5. **Delimitations**
6. * **Methodology** - description of the type of theories that will be used (critical thinking, logic, feminist, ethical, historical etc.), approach (North American, analogy, cultural comparison) how work will be analyzed.

Interviews, content analysis, case study, etc.

7. **Analysis**

CITING REFERENCES AND REFERENCE LISTS

Citing References

- When you summarize all or part of someone else's words, you **MUST** give them credit.
- References should be cited using the format requested by your advisor

Quoting References

- If you use someone else's words word-for-word (i.e., quoting), you **MUST** use quotations marks and give the page number from which the quote is taken. Page numbers for direct quotes should also appear on power point slides.

Reference List

- Only include the references cited in text. This is not a reading list, but a reference list.
- References are listed in alphabetical order. If there is more than one reference from the same author, alphabetical order using the next author, then year of publication, etc.

CREATING A PROPOSAL PRESENTATION

Prepare for a **10 minute** power point presentation.

Ensure that your slide design is clear, and easy to read. Avoid trying to fit in too many points, and ensure your font colour and size is effective.

After your presentation, there will be a **5 minute question period**. Be confident in your answers and be sure that you understand the question before answering. If you aren't sure, don't hesitate to ask for clarification. There may be questions that you really aren't sure of the answers. Simply respond that you don't know at this point and that you will do some further research and come up with an answer.

Your presentation should include the following:

Title Slide

Thesis Title
Name
Date

Introduction Slide

Introduce thesis topic

Literature Review slide(s)

Highlight key lit review findings.

Typically, the lit review sets up the main purpose of the study.

Hypothesis slide (if quantitative study)

Purpose/Thesis Statement/Objectives/Major Research Questions (if qualitative study).

Methods

Describe the methodology that will be used

Study design/procedures (if quantitative)

Thank you slide

It is not necessary to include an actual thank you slide but you should thank and acknowledge your advisor and second reader for their efforts in providing feedback on your proposal.

Please see online course materials for **Proposal Presentation Tips

RESEARCH ETHICS BOARD

<http://www2.mystfx.ca/research-ethics-board/>

StFX REB Approval for Undergraduate Research Projects

Ethics approval is required for all undergraduate research with human participants.

Honours Students. In accordance with Tri-Council policy, all honours students' research with human participants **must be approved** by the University Research Ethics Board. Honours students must download this WORD [STFX Research Ethics Board \(REB\)](#) Application Form, and complete and submit to the departmental or program.

Once that review is complete, **the chair of the departmental or program REB, on behalf of the student, forwards the application using the STFX ROMEO Researcher Portal.** Once REB review is completed, the approved protocol and approval letter **will be made accessible to both the student and supervisor in ROMEO.**

This two-part process is intended to recognize departmental expertise in subject areas and to meet the Tri-Council guidelines. The StFX REB does not wish to delay honours students' research, so every effort will be made to review these projects in an efficient manner. However, special attention will be paid to research projects involving high risk and/or particularly vulnerable groups of participants.

ETHICAL CONCERNS IN RESEARCH

Concern with the ethics of the researcher and wellbeing of the participants promotes the integrity of the scientific method. It is the institution's responsibility that all researchers (including undergraduate students) comply with accepted ethical standards.

Regulation and protection of participants

Ethics is concerned with human behaviour from a perspective of right and wrong.

Situational ethics: each situation and action is unique and must be evaluated on its own merit.

Normative approach to ethics: ethical standards serve as guiding principles for research conduct. WMA (200) Helsinki Declaration.

Basic ethical principles (Belmont Report, 1979)

1. *respect for persons* - the individual is capable of self-determination. Special protection is given to persons with diminished autonomy.
2. *beneficence* - there is an obligation to protect people from harm and to maximize their benefits from participating in the research
3. *justice* - the benefits and burdens of the research must be fairly distributed among the participants

Potential problems with informed consent:

1. How much information does a subject/participant need to give his/her consent?
 - * goals of research cannot always be accomplished if full disclosure is made
 - * undisclosed risk must be minimal
 - * debriefing of participants
2. Participants must be able to understand the informed consent form. Generally, information letters and consent forms need to be written at a Grade 6 literacy level.
3. Privacy – controlling conditions under which the subjects' participation may be disclosed
4. Confidentiality – the ability to link collected data to a participant's identity.

How to manage privacy and confidentiality:

- obtain anonymous information
- code data such that identifying information is eliminated
- do not report individual data
- limit access to data
- use computerized method of encrypting and storing data

Disclosure of research findings

It is unethical for the researcher to disclose inaccurate, deceptive, and fraudulent results.

Misconduct in research includes: fabrication, falsification, and plagiarism.

Fabrication: creating data where no data exists

Falsification: changing data to suit your needs

Plagiarism: presenting work of others as your own or without proper credit.

Possible penalties: reprimand, loss of grants (all of yours, maybe also those belonging to others in your institution), removal from rank, fines, failure, dismissal from the university.

Authorship

Should you attempt to publish your honours thesis elsewhere, the following statements are provided to clarify authorship:

Generally, authors are limited to those who make a significant contribution to the research

First author: is typically the lead researcher responsible for conceptualizing the research problem and developing the research plan.

Additional authors: listed in order of contribution. Editing a paper is NOT a sufficient contribution to be considered an author.

Note: It is strongly suggested that you clarify authorship at the outset of the manuscript preparation. Generally, the honours thesis student should be listed as first author, but that is dependent upon the contribution to the manuscript preparation (lead vs. supplementary role).

HUMAN KINETICS RESEARCH ETHICS BOARD APPROVAL PROCESS- FALL 2021

1. Completed Application for Ethics Approval is electronically sent to Drs. Dan Kane (dkane@stfx.ca) and Sasho MacKenzie (smackenz@stfx.ca) before Christmas break.
2. The HK REB Board will communicate and generate a **single** set of feedback.
3. Feedback is sent to the honours student and supervisor(s).
4. After addressing the initial feedback the revised application is sent once again to Dr. Dan Kane (dkane@stfx.ca) and Dr. Sasho MacKenzie (smackenz@stfx.ca).
5. A second review is conducted.
6. If the necessary revisions have been made, the HK REB Board will forward the application to the Chair of Human Kinetics, Dr. Charlene Weaving, for final approval.
7. The application will be forwarded to the StFX REB for final approval.
8. If successful, a Letter of Approval will be generated by the Chair and signed by the Chair, and other members of the HK REB.
9. Students will receive instructions from STFX REB to submit signed forms via email
10. Copies of the signed letter will be made available to the honours student and supervisor usually through the Honours Program Coordinators.
11. The original signed letter should will be included as an appendix in the student's final thesis.

WRITING THE QUANTITATIVE RESULTS SECTION OF YOUR THESIS

Writing in this section is straight forward (i.e., you simply report what you find). This is not the section where you explain why you found what you found (or didn't find what you expected to find)

1. Subjects

Report the number, male/female split, age, and any other pertinent demographic material (height, weight, sum of skinfolds, level of physical activity etc.). Depending on the sample size, you should report means \pm standard deviation. Report means and standard deviations using the same number of decimal places as the data was collected, i.e. height 136.5 ± 5.6 cm.

Depending upon the amount of data, you may want to present this information in a table format, or graphically as a bar chart or another figure. (See points number 3 and 4 below.)

2. General description of the data collected

If you collected physical activity data or anthropometric data and this is key in regards to your purpose – first report the general findings prior to the analysis of that data. Sometimes you will do this at the same time. For example:

There was no significant change in the average SMI-C9© questionnaire scores (pre-intervention 30.4 ± 2.4 ; post-intervention: 30.6 ± 3.1 ; t-test: $p = 0.887$).

Again, depending upon the amount of data, you may want to use a table, bar chart, or other figure to assist with the presentation of results. Be careful not to simply repeat data in text already presented in another format.

3. Creating tables

- a. Use "Insert Table" function in Word
- b. Autofit data to contents vs. autofit to page (personal preference)
- c. Each table is numbered with a self explanatory title above it.
- d. The table should stand alone, i.e., you can understand the contents without reading the text (title used, data included, etc.)
- e. Bold headings and labels within the table and center the data (personal preference)
- f. Include asterisks for lengthy data descriptions and to expand upon abbreviations used.
- g. If using the \pm (found under insert symbol), use a space before and after it. (personal preference)

Table 1. Anthropometric measurements of boys and girls before and after a 10-week physical activity program

	Boys (n = 7)		Girls (n = 10)	
	Pre-Program	Post-Program	Pre-Program	Post-Program
Height (cm)	141.8 ± 5.3	143.1 ± 5.1	144.3 ± 8.9	146.0 ± 9.1
Weight (kg)	41.3 ± 6.1	41.9 ± 6.0	43.9 ± 7.9	44.7 ± 8.6
Skinfolds* (mm)	157.1 ± 51.7	137.8 ± 45.3	156.9 ± 62.4	151.7 ± 64.6

* Skinfolds = the sum of biceps, triceps, subscapular, suprailiac, supraspinale, abdominal, front thigh and medial calf skinfolds.

4. Creating figures

- Use “Insert Diagram” function in word
- Each figure has a title placed below. Again the title needs to be self explanatory.
- The figure should be able to stand alone, i.e, be understandable on its own (title used, data included, etc.)
- Bold headings and ensure they are minimally 12 point font
- It may be best NOT to use color in your original figure as it may not reproduce well.

For example:

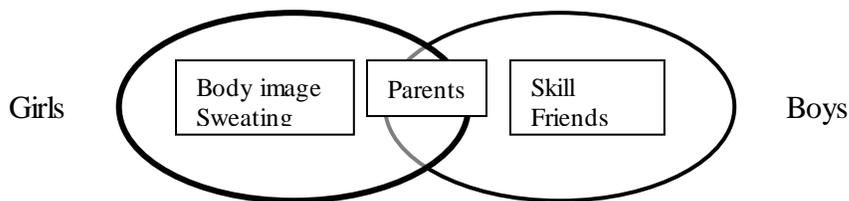


Figure 1. A diagram of the interrelatedness of the physical activity supports and barriers in boys and girls.

5. Reporting on the data analysis

Your results are significant or not significant ... there is no “approaching significance”. You may say, “although the children were taller at the second measurement occasion (Time 1 = 140.6 ± 10.9 ; Time 2 = 142.5 ± 9.8), this difference was not significant ($p = 0.113$).

You should include the p values obtained. If not already presented, you should also include the averages and standard deviations.

WRITING THE QUALITATIVE RESULTS SECTION OF YOUR THESIS

Presentation of qualitative data follows a very different structure than quantitative data. You may be reporting on observations, interviews, or document analyses. Often what is recommended is to find a format of data presentation that best suits your research. You are strongly advised to work closely with your thesis advisor in determining the best way to present your data.

General Recommendations:

- writing in first person is strongly encouraged
- assuming a thematic data analysis, first provide an overview of the themes that emerged from the data, then use each theme as a heading and expand upon it using quotes to provide examples
 - quotes of less than three lines should be included in text with quotation marks surrounding it
 - quotes of greater than three lines should be separated from the text (i.e., indented, single spaced)
- use pseudonyms unless study participants gave explicit permission to use their names; also be careful to not provide too much description of your study participants to protect their identity
- intersperse other research when possible and cite appropriately
- use tables and figures as needed (using the format described previously)
- use of images if applicable are encouraged.

WRITING THE DISCUSSION SECTION OF YOUR THESIS

In this section, you “explain” the findings of your research, compare your findings to others, identify your studies strengths and weaknesses, make recommendations for future research, and provide conclusions and suggestions for future research.

1. You may begin your discussion with a “reminder” as to the purpose of your research problem, the sample, and the main findings. For example:

The purpose of this study was to determine if children and adolescents who are classified as overweight obtained less physical activity than their healthy weight counterparts. Objectively measured physical activity and height and weight data were obtained from a relatively large random sample of boys and girls in grades 3, 7, and 11 in Nova Scotia. The results do not provide a definitive answer to the question posed. While there is some evidence from the data from the boys and girls in grade 3 and the boys in grade 7 to suggest that the students classified as overweight are less physically active than their healthy weight counterparts, there was no supporting evidence from the girls in grade 7 or boys and girls in grade 11.

2. Clearly state whether or not your hypothesis was supported.

3. Select the most significant findings (2-3) to expand upon. You may write a paragraph on each. Include relevant literature ... i.e., “These findings are consistent with Thompson et al. (2005) who also noted ...” even if the literature is contrary to your findings ... i.e., “These findings are contrary to the work of Thompson et al. (2005) who found ...”

NOTE – the discussion section is generally not where you bring to light NEW knowledge. Although “new” knowledge may be included when your findings are not in accordance with your hypothesis. Usually, the references referred to have already been noted in the introduction. Your discussion should also be more than simply a re-iteration of the introduction as well.

4. Once you have discussed your findings, you should highlight the most prevalent strengths and weaknesses to your study. You may consider the sample size, the age restriction on the sample, control of a variable (i.e., diet, physical activity, etc.), measurement techniques, statistical analyses used, etc.. Don’t beat yourself up here. Your study is meaningful; you do not need to overemphasize the flaws.

You may also include the unique contribution or pluses of your study which also may related to sample size, control of particular variables (i.e., diet, physical activity, etc.), measurement techniques, statistical analyses used, etc. Be careful, however, not to overestimate the excellence of your research.

5. You finish your discussion with some conclusions and directions for future research. Your conclusions may include who the findings are applicable to and that this work needs to be considered when

Future research suggestions may include things that you wished you would have done or simply couldn't have done given the time restrictions as an honours student. Your recommendations may also be similar to what someone else has suggested (if so, cite your reference appropriately).

How long should your discussion be?

Not an easy question to answer ... depends on the type of research done and whether or not your findings are straight-forward. Three to six pages is suggested as a start.

Alternate Journal Format

The final honours thesis document may be formatted according to the specific guidelines of a peer reviewed journal relevant to your area of study. The journal must be approved by your advisor. Please note the following.

- Using journal guidelines should not influence the format of your written proposal. The proposal format, previously described in this booklet, must be followed. Typically the literature review portion of your proposal will have to be written more concisely and worked into your introduction in order to meet journal guidelines.
- Journal guidelines typically require Figures and Tables to be included in a separate document from the main text prior to submission. When formatting your final thesis include Figures and Tables in their logical place within the text of the thesis so as to create a cohesive document.
- The necessary appendices should still be included at the end of the thesis.

WRITING AN ABSTRACT OR SUMMARY

Abstract or summaries vary according to their purpose and several forms are acceptable. Generally, the abstract provides an overview of your research – including the title, purpose, sample, methods used, results, and a discussion or conclusion statement. If your abstract is a submission for a presentation at the Student Research Day or Atlantic Provinces Exercise Sciences Plus (APES+) meeting, you must follow the specific abstract guidelines.

Word limit: Limit your abstract or summary to approximately 250 words.

Authors: Include your first and last name and the names of any other authors, indenting 5 spaces. Presenting author should be listed first. Do not include degrees or titles.

Affiliation: Directly underneath the authors' names, include the name of your department. If your work is shared between two departments, include both departments.

Abstract: The abstract should be informative including a statement of the research's PURPOSE, METHODS, summary of RESULTS, and a CONCLUSION statement. Abstracts for quantitative research are encouraged to follow this format. A sample abstract is included on the following page.

Summary: The summary should be informative and summarize the work to be presented. There are no strict guidelines to follow. Summaries for qualitative research are encouraged to follow this format. A sample summary is included on the following page.

Support: Acknowledge financial support on a separate line at the end of the abstract or summary.

Sample Abstract (presented for submission to a conference ... in your thesis, simply use the title "Abstract")

A BIOMECHANICAL COMPARISON OF THE VERTICAL JUMP, JUMP SQUAT, AND POWER CLEAN

Robert Lavers & Sasho MacKenzie

Department of Human Kinetics, St. Francis Xavier University

The transfer between weightlifting (e.g., power cleans) and jumping has been attributed to their kinematic similarities; however, the jump squat is probably more kinematically similar, but less evidence exists to support its use. This study compared the countermovement jump, the power clean, and the jump squat with the objective of identifying the mechanism of transfer. Ground reaction forces, electromyography, and joint angle data were collected from 20 trained participants while they performed the three movements. Relative to the power clean, the kinematics of the jump squat were more similar to that of the countermovement jump. The order in which the ankle, knee, and hip began extending, as well as the subsequent pattern of extension, were different between the power clean and countermovement jump. The electromyography data demonstrated significant differences in the relative timing of peak activations in all muscles, the maximum activation of the rectus femoris and biceps femoris, and in the activation/deactivation patterns of the vastus medialis and rectus femoris. The greatest rate of force development was generated during the power cleans (17254 N/s), which was significantly greater than both the countermovement jump (3836 N/s) and jump squat (3517 N/s) conditions ($p < .001$, $\eta^2 = .88$).

Note: Qualitative abstracts differ in the design. See sample below:

Trans Jocks: An examination of Canadian high school transgender athletics policies

Sasha Ayoubzadeh, Department of Human Kinetics, STFX

Sports have been traditionally sex-segregated based on perceived physiological differences and a hegemonic acceptance of the gender-binary. However, scientific evidence supporting a clear physiologic binary is inconclusive. Athletes whose gender or gender identity deviates from the gender binary have stimulated the sporting world to critique gender-based policies and common beliefs entangled within scientific representations of sex. A social recognition of transgender individuals has brought to light the necessity of policy analysis regarding sex-segregation in sport. The International Olympic Committee (IOC) remains a prominent sporting body with influential policy for trans and intersex athletes, and has thus been the focus of most research and public commentary. However, there has been little research and policy development in Canada at the high school level. Specifically, in this paper, I examine via a content analysis, transgender high school athletics policies in Manitoba, Nova Scotia, and Ontario. Philosophical analysis will be used to analyze these policies' degrees of fairness and inclusivity.

WORKING WITH A COMPLETE PRODUCT: FORMATTING YOUR THESIS

1. General

- the entire document should be single sided and double spaced
- use 12 point font, Serif Font
- use 2.54 cm margins
- start each section on a new page (i.e., cover page, title page, table of contents, abstract or summary, acknowledgements, introduction, literature review, methodology, etc.)
- use page numbers – beginning with page 2 on the table of contents, preferably in the lower right hand corner of the page
- headers and footers are optional – use one or the other. You may choose to include an abbreviated title, last name and year of graduation (i.e., Mirror, mirror on the wall, does body image affect us all? Purdy, 2006)

2. Cover and title pages

a. Cover page

- Use 16 point font, center and bold your title near the top of the page.
- *Your name*, St. Francis Xavier University, Antigonish, Nova Scotia, April, *year of graduation*, centered, one line after the other on the bottom of the page

b. Title page

- use 12 point font, center and bold your title near the top of the page
- include – again centered - “An Honours Thesis Submitted to the Department of Human Kinetics In Partial Fulfillment of the Requirements for the Degree of Bachelor of *Arts or Science – whichever it is for you* in Human Kinetics with Honours”
- include - again centered - *your name*, Department of Human Kinetics, St. Francis Xavier University, and April *year of graduation*

3. Table of Contents

- you can format this as you like
- include all major headings in your thesis (acknowledgements, abstract of summary, introduction, etc.) and the applicable page numbers

4. Acknowledgements

This page can (and should) be the last thing you write. The purpose is to acknowledge those who helped you get to this point in life and in particular who helped you to complete your thesis.

5. Abstract or Summary

Generally, the abstract of summary is no more than one page. (See previous section)

6. Thesis (usually in the following order)

- a. Introduction
- b. Review of Literature
- c. Methods
 - i. Participants
 - ii. Tools used
 - iii. Data analysis
- d. Results/ Analysis
- e. Discussion/ Analysis
- f. Conclusion/Future Research
- g. References
- h. Appendices (listed in order of introduction in the thesis)
 - i. REB approval letter
 - ii. Invitation to participate and consent form
 - iii. Questionnaires used
 - iv. Others?

APPENDIX A

ADVISOR FORM*

Name: _____ **Student ID** _____

E-mail: _____ **Phone:** _____

_____ has agreed to supervise _____

for his/her honours research in the Department of Human Kinetics.

Student's Signature **Signature of Faculty Advisor** **Date**

* Available on-line at www.stfx.ca/people/smackenz through the courses link.

APPENDIX B

INTENT OF THE STUDY*

Name: _____ **Student ID** _____

E-mail: _____ **Phone:** _____

Thesis title:

Problem statement:

Suggested Second Reader: _____

Faculty Advisor: _____

Student's Signature

Signature of Faculty Advisor

Date