

Douglas College Student Research Days 2010





A Message from Douglas College President

Scott McAlpine

Student Research Days

The mandate of Douglas College is as a teaching institution. As such, we need to facilitate the continued development of the best instruction and learning experiences possible for the students we serve. Students, of course, learn not only from others but from their own efforts and research. Moreover, engaging in research and discovery is, for students, part and parcel of experiential learning at Douglas College. In a knowledge-based society and economy, the role of the post-secondary institution is not only knowledge dissemination but also knowledge generation. How better to do that than to engage students in research?

As you read through the abstracts of the research undertaken by students and mentored by some of our highly qualified faculty, I know you will be impressed not only with the breadth of research but with the depth of the learning that has occurred. Of course, these research abstracts can only touch the surface of the importance of this experience to students and to the faculty mentors who gave significant time and effort to each of these projects. You will also discover that, in many respects, the research undertaken speaks to the passions of the student researchers and a passion for discovery, for innovation, and for making a difference.

The 100 plus projects represented at Student Research Days were truly inspiring. On behalf of the College as a whole, I thank the students, faculty mentors, and staff for all of your hard work. You are making, and will continue to make, a difference through your efforts.

A Special Thanks! From the Douglas College Student Research Working Group

The 2nd Annual Student Research Days took place at the New Westminster Gymnasium and in the David Lam Atrium on March 30th and 31st of 2010. Together, the days showcased over 100 student research project posters on a diverse range of topics being undertaken at Douglas College. While the Douglas College Student Research Working Group is responsible for marshalling and coordinating the events, the instructors and students who are already hard at work on interesting scholarly activity and research are the ones who make the days rewarding and interesting. The Douglas College Student Research Days are put on entirely by student volunteers who work to organize and execute the events. The direct involvement of students in the planning and preparation of the events helps to make the Douglas College Student Research Days an event that is both by, and for, students.

The Douglas College Student Research Working Group would like to underscore the effort involved in putting the event together. Encouraging and exhibiting engaging and innovative research and scholarly activity from students at the college requires the talents of numerous individuals who work behind the scenes to make the days memorable. To that end, the Working Group would like to thank the following individuals and divisions who, among the numerous others, helped make the days a success:

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The 2010 Douglas College Student Research Working Group:

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Todd Harper
Anna Helewka
Carolyn Sams
Tom Whalley
David N. Wright

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Special thanks to Vanessa Simpson

HIPPOTHERAPY: BENEFITS AND LIMITATIONS

CATERINA MARIA MURDOCCO

FACULTY MENTOR: BRUCE HARDY

DEPARTMENT: CYCC

The purpose of this research is to explore the benefits and limitations of using Hippotherapy as a rehabilitation therapy for those with disabilities. This researcher hopes to gain insight as to why it is not a therapy that receives government funding. By the end of the literature review, it was evident that the limitations associated with Hippotherapy are minimally considered. It was simply stated that expenses and safety risks are the only drawbacks of this therapy, with virtually nonexistent evidence or statistics to measure the credibility of these claims. This directed additional research to be done on the limitations of Hippotherapy and research was conducted by means of a survey that was sent to numerous practitioners across North America. In simple terms, the research question explores the limitations of Hippotherapy and how frequently injuries requiring medical attention occur among riders. Both qualitative and quantitative data was gathered and analyzed, and results were fascinating. Not only were findings regarding the disadvantages interesting, but results regarding the advantages of Hippotherapy also emerged.

NICHE MARKET RESEARCH FOR ACME PHARMACEUTICALS

WILL STERN

ARIENNE MULLIGAN

FACULTY MENTOR: DIANA WEGNER

DEPARTMENT: PRFU / CMNS

Our confidential client has a new drug that is not covered by BC Medical. Drug A is used to treat Attention-Deficit/Hyperactivity Disorder (ADHD) in adults. Individuals are unlikely to pay for an expensive drug themselves but larger and/or better employers generally offer extended medical benefit packages to employees. The primary target of our research was to find the largest employers that offer these benefits and research their market climates. The second research target was to supply our client with market data from post-secondary institutions which could be used in future marketing strategies. Company coverage was to pinpoint the businesses in BC that offer their employees extended health coverage and have the largest number of employees. Market Climate was to find out how receptive these top employers are having their employees attend a sponsored health-day where our client could perform adult ADHD screening tests and introduce their new drug. Adult ADHD comparisons was to provide the client with demographics, prevalence rates in a post-secondary institution, national prevalence rates and make comparisons and propose logical conclusions for any differences.

BOYS TO MEN(TORS)

TAM BASARABA

FACULTY MENTOR: BRUCE HARDY

DEPARTMENT: CYCC

Male adolescents with absentee fathers benefit from having male educators and helping professionals as role models and mentors. It is proposed that once a boy reaches adolescence (in this research defined as between ages 12 to 16 years) they are no longer able to access all they need from their mothers and females in the community in order to develop and thrive in all domains. There is a necessity, and even a craving, for the experience of an older male's attention and guidance on how to navigate the world as a man. This is known as mentoring or role-modeling; a relationship like this can be developed over time with consistency and through activity-based learning.

The goal of this research was to find a correlation, male mentors and boys doing well in all three aspects of their lives: socially, psychologically, and academically, using a survey questionnaire of adults who work with youth in a variety of professions. This research examines the question of the validity that there are benefits of adolescent boys having male role models. This query has led to the investigation of whether males, specifically those who have no positive male role model in the home, benefit in a meaningful and measureable way from having a male role model or mentor in their lives.

LIFE [SAVING] SKILLS

ALANA FROGLEY

FACULTY MENTOR: BRUCE HARDY

DEPARTMENT: CYCC

Until recently, most adolescents dealing with substance abuse and addictions have been treated with intervention models designed for adults, with varying results. This literature review examines several models of adolescent substance abuse treatment, which focus on the acquisition of life skills as the means to recovery. By reviewing a number of studies looking into the effectiveness of several models of treatment, the paper compares their effectiveness across the differing approaches. These treatment models include the Behavioural Therapeutic approaches, the Stress and Coping model, and Community-Based Treatment approaches, including the Phoenix Academy Treatment Model for adolescent substance abuse.

AGGRESSION AND EXERCISE: GHOST RELATIONSHIP?

KELSEY STEVENS

**FACULTY MENTOR: BRUCE HARDY
DEPARTMENT: CYCC**

The relationship between aggression and physical exertion is present for children and youth between the ages of twelve to eighteen. Previous research has shown that the genetically mediated expression of physical aggression was strong among children who had highly physically aggressive friends. An example of these individuals might be football teammates. Research has also shown that acute exercises produce mood benefits decreasing the likelihood of aggressive behaviours. An example of acute exercises might be playing football. The results that this research survey produced are vague but some comparisons can be made using the data. The data was gained using a quantitative study and it demonstrates a clear link between the level of physical exertion and the same individuals' level of aggression.

BODY IMAGE AND OVERWEIGHT CHILDREN

DEBBY MURILLO

**DEPARTMENT: CYCC
FACULTY MENTOR: BRUCE HARDY**

Media plays a large role in the lives of children and is sending conflicting messages. One message to be thin and look like the actors and celebrities on television and in magazines and at the same time, children are inundated with commercials that have a high content of fast unhealthy foods. These two conflicting messages are causing more body dissatisfaction and an increase of psychological problems.

Young people today are obsessed with body image. Meanwhile, there are reports of more overweight children in North America than ever before. We live in a time when children at a younger age are becoming more and more concerned about what they look like; wanting to alter their body and being thin. The research objective is to determine whether or not young children are concerned about their body image and being thin; while comparing these thoughts and feelings to eating habits, leisure activities and parental influences.

SOCIALLY: ARE YOUNG PEOPLE WIRELESS?

DONNA McADAMS

DEPARTMENT: CYCC

FACULTY MENTOR: BRUCE HARDY

I observed my teenage son and his peers spending a lot of time socializing with each other through the Internet and through the cell phone. I noticed that my son and his peers spent less time together through direct face-to-face contact. These observations made me realize that wireless communication is influencing today's social practices by re-defining past social norms such as going outside to 'hang around' and talking via the traditional phone line.

The relationship between socialization and technology has lead me to the focal point of my research, which is "Wireless Communication and its Social impact on Young People". This research is to demonstrate that young people are impacted in every facet of their lives by wireless communication technology.

THE IMPACT OF A MENTORING RELATIONSHIP IN THE COMING-OUT EXPERIENCES OF GAY MEN

RYAN TRIPP

DEPARTMENT: CYCC

FACULTY MENTOR: BRUCE HARDY

The purpose of this study is to find the effects of a mentoring relationship on the coming-out processes of gay men. This current study explored the contributions that a mentor, whether it be a parent, peer, teacher, or other person on the coming out and identity formation of gay men. Six gay men, ranging in age from 26-45 participated in qualitative, in-person interviews.

The men who participated in this study first needed to self-identify as happy gay men. The respondents then answered a series of questions related to attachment, childhood and adolescent rejection, mentorship, sexual identity and coming- out.

In-person interviews allowed respondents to "tell their story" and debrief afterwards. This series of questions led to the conclusion that most gay men do not believe a mentor contributed to their coming-out processes. However, these men overwhelmingly agreed that a mentor might have enabled them to come-out earlier and easier.

BURNOUT AHEAD? A QUALITATIVE APPROACH TO BURNOUT IN THE CYC FIELD

FELICIA BAILEY

DEPARTMENT: CYCC

FACULTY MENTOR: BRUCE HARDY

There is a high likelihood of burnout for those who work in the human services field. Burnout is a syndrome described as emotional exhaustion, depersonalization (and detachment from the job) and sense of inefficacy (lack of accomplishment or a loss of feelings of personal achievement). The purpose of this study is to determine if stress levels in college and university students will predict early burnout within the child and youth care profession. The sample consisted of students who are currently enrolled in the Child and Youth Care Counseling Program who attend classes and are currently employed. All participants were enrolled in at least two courses this semester consisting of at least 8 hours of classroom time a week and worked full time hours (consisting of 30 hours a week or more). The survey could not answer the fact that student's have practices that can lead to burnout in the field. It also could not demonstrate that unhealthy practices will aid in determining the predictability of future burnout in the field.

HISTORICAL RACISM AND ITS MANY FACES

RHONDA PARKS

DEPARTMENT: CYCC

FACULTY MENTOR: BRUCE HARDY

The research topic is racism and its effects on Aboriginal people. In particular learning more about how racism affects Aboriginal peoples' lives in the present day, where racism originally started historically, and how this contributes to the negative treatment directed towards Aboriginal people. The data gathered to answer the research question will focus on what prevents Aboriginal women from accessing support services.

SHIFT WORK: WHAT'S YOUR HEALTH GOT TO DO WITH IT?

JENNY HUNDAL

DEPARTMENT: CYCC

FACULTY MENTOR: BRUCE HARDY

In many work environments, the nature of the job and the services which are required around the clock, make shift work necessary. There is no concrete definition of the term shift work. For the purposes of this study, shift work refers to any shift where fifty percent of the hours are worked outside the traditional 0900 to 1700 hours, and include working weekends. The topic of research involved the effects of shift work on health. There were many speculations surrounding the negative impacts shift work had on an individual's health. This research allowed for the opportunity to explore the misconceptions and facts that were relevant. Several key areas were explored. Shift work increases health risks, the research explored whether this statement was true or false. Furthermore, it discovered which aspects of health were affected by shift work and how. The purpose of the study was to determine whether or not shift work increases health risks and allowed the opportunity to gain a better understanding of the relationship between shift work and an individual's health.

CHILDREN IN AFTER SCHOOL PROGRAMS

ROBERT JUCO

DEPARTMENT: CYCC

FACULTY MENTOR: BRUCE HARDY

The topic researched was children who participate in after school programs, whether in a community centre setting, sports arena, or in their own school. The study was information based on the experiences of staff, one to one workers or sports coaches. The inquiry looked into whether staff agreed that children and youth who access after school programs develop better social skills, receive better grades and generally develop to their fullest potential. Children and youth service providers were asked, if they felt that as positive role models in their respective settings, did they positively influence the children they worked with, either one to one work or allocated leadership roles in academics, fine arts and athletic areas.

A QUANTITATIVE LOOK AT WORKING AND NON WORKING PARENTS SPENDING QUALITY TIME WITH THEIR CHILDREN

VANESSA SILVA

DEPARTMENT: CYCC

FACULTY MENTOR: BRUCE HARDY

The focus of this research is to determine how much quality time working parents are spending with their children. The importance and emphasis is on quality because there may be parents who spend very little time with their children but do so in healthy ways such as doing activities or helping with homework or projects. With the results of the survey, the hypothesis has been proven correct. Analysis proved that when it came to spending time at home and engaging in activities with children; non working parents spent more time engaging with their children. However, there are limitations that are further pointed out in this paper that may have contributed to my hypothesis being proven correct.

FACEBOOK: FRIEND OR FOE?

KELLY MELSNESS

DEPARTMENT: CYCC

FACULTY MENTOR: BRUCE HARDY

Working in a school system with high school students, the impact the Internet is having on the next generation of youth has become apparent. The research project focused on the 'connection' created by the use of the internet including the subject of social networking. More specifically the popularity of Facebook and the impact Facebook accounts are having on personal and professional lives, relationship status, profile images, costs/benefits of social networking. After examining preexisting research, the researcher settled on the language of Facebook, in particular the use of the term 'friend'. On Facebook, people are able to search through databases looking for people to add as their friends. The question asked about Facebook in the study and the term 'friend' is two-fold. Is the term 'friend' limiting or minimizing important values around friendships? Do Facebook friends possess the same qualities as traditional friends? What are the differences and similarities? Do individuals have the same values around their online friends? The second question looks at those who add parents, grandparents, siblings, coworkers, teammates, and also call them friends. Does this suggest that the relationship between everyone on one's Facebook is the same as all are identified as friends? The focus of this research will identify whether Facebook creates a false sense of friendship.

ALEXANDRA NEIGHBOURHOOD HOUSE COMMUNITY ASSESSMENT

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KARA SINCLAIR

JIMMY TRAN

DEPARTMENT: NURSING

FACULTY MENTOR: SUSAN HAMMOND

The Alexandria Neighbourhood House Community Assessment entails an assessment of the White Rock and South Surrey population with the identification of community needs. These needs were deemed relevant by the use of a windshield survey, personal experiences and statistics obtained from the 2006 census from Statistics Canada. The following needs were identified: increased social and emotional development in early childhood; increased need for early childhood and parenting programs due to an influx in housing developments and young families; maximum capacity reached of early childhood development programs at Alexandra Neighbourhood House, increased youth services due to a large amount of youth living in the area; increased funding for early childhood and parenting services due to recent budget cutbacks as evident at the Semiahmoo Family Place from a newspaper article and current cutbacks that exist at Alexandra Neighbourhood House. As part of a practicum the nursing students worked with Alexandra Neighbourhood House and actively participated in some of the programs at the house, as well as around the Crescent Beach area. Some of the programs include: Busy Bee's program, the Mother Goose program, the Supported Adults program, and the Youth Outreach program at Vine Youth Clinic. As a result, benefits of the programs in addressing some of the needs of the community were identified. The notion of Health Promotion was made quite evident in both practice and research and these experiences helped solidify the understanding building and maintaining community capacity.

RELATIONAL IMPACTS OF HARM REDUCTION

MINDI NIEDERMEISER

DEPARTMENT: CYCC

FACULTY MENTOR: BRUCE HARDY

This qualitative study examines the relationships between drug users and police officers in the Downtown Eastside. The time period covered the interactions before and after Vancouver implemented a harm reduction program to address the drug issues in the Downtown Eastside. For the purpose of the research, harm reduction was defined as methods that reduce harmful effects of drug addiction including needle exchanges, safe injection sites, and/or heroin maintenance programs (methadone). The research was chosen as there are limited studies examining the interactions between police officers and drug users.

MALARIA

SUSAN LUTKE

DEPARTMENT: PSYCHIATRIC NURSING

FACULTY MENTOR: LOIS SCHWARZ

Malaria is a devastating disease that is responsible for thousands of deaths annually. According to the World Health Organization's World Malaria Report 2009, in 2008 there were 243 million cases of Malaria with an estimated 863,000 deaths; the majority of deaths occurs among children less than five years old. The most lethal form of the disease is endemic to Africa. Malaria's effect on human health has a cascading effect, negatively impacting social and economic spheres such as education and business. It is a vicious circle that sees the poorest countries with the weakest infrastructures unable to implement simple, basic and economical strategies that could easily halve the number of malarial victims. The goal of this paper is to conduct a literature review that will highlight the current research situation, the nature of the parasite that causes the disease and steps that can be taken to eliminate Malaria.

Current research efforts into control or elimination of Malaria builds upon existing strategies, adding dimensions of attack related to growing genomic awareness of both the vector and the parasite. Strategies such as genetic modification of the *Anopheles* mosquito compliment the push for a vaccine, of which there are presently about a dozen in clinical trials. While the future looks promising, the current situation facing malaria-endemic countries remains critical. Italy was able to control and finally eliminate malaria with a combination of strategies that attacked the disease on a number of levels: drug therapy, vector control, environmental changes, and improvement of community health and social conditions. The idea of integrated vector control (indoor residual spraying, insecticide treated nets and environmental management) echoes Italian efforts and is supported by WHO. As the medical and scientific establishments continue to study the complex *Plasmodium* parasite, immediate protection of populations at risk, through the use of simple tools like bed-nets and environmentally-sound agricultural practices, will hopefully alleviate Malaria's sting.

THE RELATIONSHIP BETWEEN ELDERLY AND SUICIDE

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TINA KAUR

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FACULTY MENTOR: MIKE MILLER

Purpose of the research was to examine the relationship between the elderly and suicide. The method used was to review eleven peer reviewed articles that support the phenomena. There is a high correlation of elderly and suicide. It has been found that elders who have attempted/completed suicide have had at least one previous hospitalization due to depression. Approximately 70% of older adults have visited their General Practitioner one month prior to committing suicide; with such somatic complaints such as: insomnia, headaches, and abdominal pain. There is not enough adequate screening during assessment at the General Practitioner's office which has lead to oversight of elderly and their risk of suicide. Men are more likely to complete suicide due to their use of lethal methods such as firearms (guns). From the summarized articles there is evidence that there is a correlation between depression and dementia. It was found that those with mild cognitive impairments were more likely to complete suicide than those who have moderate to severe symptoms of dementia. It is important to note that many elders do not seek out assistance (e.g. crisis lines) due to fear of stigma that is attached to aging. It is not normal for the elderly population to have feelings of hopelessness and helplessness. The purpose of this study is to understand the correlation between the elderly population and suicide. With the elderly population increasing in the coming years there is the question of whether the rates of suicide in the elderly will increase.

STREAM INVERTEBRATE POPULATIONS AND DIVERSITY: INVESTIGATING THE EFFECTS OF DIFFERENCE IN RIPARIAN HABITATS

JONATHAN MICHELL

DEPARTMENT: BIOLOGY
FACULTY MENTOR: ROB MCGREGOR

The purpose of this project was to investigate whether differences in riparian habitat affect the abundance and diversity of stream invertebrates. To that end, invertebrates were collected using a Surber sampler, identified to common name, and counted recording both the abundance and diversity of each invertebrate group. Samples were collected from four streams in Burnaby, BC: two with surrounding forest vegetation and two with no canopy shading the stream but abundant low-lying vegetation. The forested streams were tributaries 2 and 3a of Stoney creek. The no-canopy streams were tributary 1 of Stoney Creek and an unnamed tributary of the Brunette River immediately west of Forest Grove Elementary School. All four streams were sampled on three occasions between January and April of 2010. All sample sites were chosen in areas far enough above where salmon are able to spawn so that any eggs or juvenile fish would not be disturbed. Data was pooled for all three sampling periods and the abundances of the six most common invertebrate groups (stoneflies, mayflies, caddisflies, crane flies, blackflies and aquatic worms) were compared between forested and no-canopy sites using t-tests. Analyses showed no significant differences between habitat types for the abundance of any invertebrate groups. However, there was a near significant difference ($p=0.07$) between the mean abundances blackfly larvae in the two habitats. Mean abundance of blackfly larvae was higher at non-canopy sites than at forested sites. Invertebrate data was also used to calculate indices of stream health as described in the Streamkeepers Handbook (available at <http://www.pskf.ca/publications/handbook.html>). Stream health indices indicated that streams at non-canopy sites were healthier than those at forested sites. This result was unexpected as it is generally believed that stream health is highest for streams in forested areas.

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