intersections

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Canadian Institutes of Health Research
Instituts de recherche en santé du Canada
Canada

MESSAGE FROM THE SCIENTIFIC DIRECTOR

Advancing Methods and Measures

Dr. Joy Johnson

Gender and sex are complex concepts. So, how do we measure them and accurately capture their effects in our research? Innovation in the field will be stymied if our primary measure of sex/gender is a response to a tick box that asks "Are you male or female?" There are numerous challenges we must consider. When we analyze data, can the effects of sex and gender be separated? And what if it is their points of intersection that are of interest—how can we identify and investigate these? Methods and measures are the approaches, procedures, and rules that researchers use to reliably and validly collect and analyze data to address research questions. To advance the science of gender, sex and health we need better ways to examine sex and gender variations and to capture the influences of gender and sex on health outcomes.

For this reason, the Institute of Gender and Health identified "advancing methods and measures" as one of two capacity-building strategies in our 2009-2012 strategic plan. This issue of *Intersections* focuses on this strategic priority and highlights some of our key initiatives in this area. In 2009, IGH launched a catalyst grant funding opportunity to support the development or testing of new and innovative research approaches to study the effects of gender and/or sex on health outcomes. Four of these projects are featured inside this issue of *Intersections* and represent a fascinating range of methodological innovations with sex and gender. The Institute has also delivered direct training to build capacity in methods and measures. This was an explicit focus at our 2011 summer institute for graduate students and postdoctoral fellows—and the work of one of these trainees is shared inside this issue.

This issue of *Intersections* provides superb examples of how science is simply better with sex and gender.

IGH

INSTITUTE OF GENDER AND HEALTH

The Institute of Gender and Health (IGH) is one of the 13 institutes that make up the Canadian Institutes of Health Research (CIHR), the federal government agency responsible for funding health research in Canada. IGH is the only organization in the world with the mandate to fund research on gender, sex and health.

The mission of IGH is to foster research excellence regarding the influence of gender and sex on the health of women and men throughout life, and to apply these research findings to identify and address pressing health challenges.

For more information, including funding opportunities, please visit our website at:
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***Intersections* seeks to showcase excellence in Canadian gender, sex and health research. We welcome proposals for spotlighting cutting-edge researchers, profiling research achievements and innovations and highlighting success stories in knowledge translation and training. To submit your ideas or to request further information, please contact ea-igh@exchange.ubc.ca.**

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columns ///

BY SUSAN HOLTZMAN

Are Men and Women Equally Irritable?

WITHOUT A DOUBT, IRRITABILITY IS A NORMAL HUMAN response. Most of us are able to recall a situation in the near or distant past when we felt irritable about something or someone. Irritability can be triggered by a vast array of situations and events, ranging from the trivial, like a fly buzzing around our ear, to the more significant, such as feeling disrespected by a spouse or child. But to what extent do men and women experience and express irritability in different ways? Are women more irritable than men, or are men more irritable than women?

In psychiatric research, irritability has been described as a prominent feature of female-specific mood problems, such as premenstrual syndrome (PMS) and premenstrual dysphoric disorder (PMDD). In fact, a female-specific measure of irritability was recently developed to better assess irritability among women. However, some researchers and clinicians have argued for a "male depressive syndrome," which is also characterized by high levels of irritability. Understanding how sex and gender may influence the experience of irritability is further complicated by the fact that our society has certain expectations of how women and men should express their irritability. Women are often socialized to hold anger and frustration in, whereas the outward expression of anger and aggression is typically considered socially acceptable (and even desirable) in men.

Despite this growing body of research on sex, gender and irritability, our current understanding of the causes, consequences and treatment of irritability remains surprisingly limited. This is important because irritability can have a meaningful impact on health and wellbeing—and not just in the context of depression. High rates of irritability have been documented across a variety of medical and psychiatric conditions, ranging from chronic pain and nicotine withdrawal to anxiety disorders and dementia. Irritability may also be an early warning sign of future mental health problems. According to a recent study in the *American Journal of Psychiatry,* high levels of irritability during the adolescent years are associated with a greater risk of developing an anxiety or depressive disorder during adulthood. On a day-to-day basis, chronically high levels of irritability appear to disrupt sleep and may even create stressful situations—particularly in the form of interpersonal conflict.

To fully understand irritability and its effects, we need to have a clear definition of irritability and we need to be able to measure it. However, these two issues have proven quite difficult. Despite the fact that most of us have some intuitive sense of what it means to be irritable, there is currently no agreed upon definition in the scientific literature. In fact, we were able to identify over 20 unique definitions used in previous studies. Many of these definitions fail to distinguish between irritability and related mood states, such as anger, aggression and hostility. Even the *Diagnostic and Statistical Manual for Mental Disorders* (DSM-IV-TR) appears to confuse irritability with other related constructs, describing irritability as "persistent anger, a tendency to respond to events with angry outbursts or blaming others, or an exaggerated sense of frustration over minor matters." This has lead researchers to question whether previous studies have actually measured irritability or some ambiguous combination of negative mood states.

Related to this problem, the second issue is the lack of adequate tools for researchers and clinicians to measure irritability. Most research has used a single question to assess irritability, such as "To what extent have you been feeling irritable lately?" However, if scientists can't agree on what is (and what is not) irritability, how can we expect the general public to answer this question in a reliable and consistent manner? More complex measures of irritability have also been developed over the years, but these often include items that assess factors other than irritability, such as anger and aggression (e.g., "When I get angry, I use bad language and swear"), and depression (e.g., "I feel like harming myself"). Another problem is that men and women may not respond to questions about irritability in the same way. For example, men and women may have different ideas about how acceptable it is to feel irritable, and they may actually label and experience irritability differently.

"...we need to have a clear definition of irritability."

To overcome these issues, our team sought to develop a reliable, valid and unbiased measure of irritability that could be used by researchers to advance current understandings of irritability in both men and women. Our first step was to conduct a qualitative study of a diverse sample of adults to understand how people characterize their own experiences of irritability. Many participants had a difficult time articulating their answer to the question "What does irritability mean to you?" However, they tended to use a diverse range of affective (e.g., anger, annoyance, frustration), behavioural (e.g., expression of anger or a quick temper), physiological (e.g., increased heart rate, muscle tension) and cognitive (e.g., hostile attributions) descriptions when talking about their experiences of irritability.

Many participants also acknowledged that there are gender stereotypes with respect to irritability. The most common being that men tend to display irritability in a more overtly aggressive fashion (e.g., throw things, get into physical altercations) and women are more passive aggressive (e.g., complain to someone else, sulk and pout). Interestingly though, participants invariably stated that these stereotypes did not apply to themselves, or to those close to them. Intrigued, our research team was curious whether we could guess a participant's gender by merely reading the transcripts of their interview. The answer was clearly "no." This further added to our impressions that the experience and expression of irritability does not seem to vary systematically based on gender.

Drawing on our qualitative interviews and our analysis of existing measures and definitions, we then developed a brief self-report measure of irritability that was precise, displayed only slight overlap with related constructs (e.g., anger, depression, aggression), and was appropriate for use in men and women. We began this process by administering over 60 possible questions about irritability to over 1,000 study participants. After an in-depth quantitative analysis of the data, we were able to determine that irritability, at least statistically speaking, is a unidimensional construct. This means that, despite the highly variable ways in which the general public and the scientific community have defined irritability, it can be boiled down to a negative emotional state that involves a heightened, but generalized, sensitivity towards internal or external events. The specific emotions, thoughts, behaviours, and physical sensations that follow from these events appear to depend on various dispositional (e.g., personality) and situational (e.g., who is present in the room) factors.

We were also surprised to learn that irritability could be accurately measured using only five brief questions. This suggests that longer existing measures may not be necessary. In addition to being brief, our scale seemed to do a good job of representing the experiences of both men and women's levels of irritability in a way that does not exaggerate or minimize levels of irritability in either gender. Once we addressed the question of gender bias, we looked to see whether men and women reported different levels of irritability on our five-item scale. At a statistical level, we found no consistent differences in irritability between men and women. In fact, irritability appeared to vary much more based on factors other than gender, such as age and health status. Again this was consistent with our other findings, which suggested we cannot make simple generalizations about whether men and women experience more irritability.

Irritability itself may have diverse elements, but it is not necessarily experienced differently across genders. Rather, looking for differences in irritability in men and women may be influenced by common assumptions about how men and women behave. In the case of irritability, men and women may be more alike than we think. Our new measure allows for this possibility of similarity and will help future research to better measure irritability in both men and women.

Weighing the differences in irritability between men and women: popular stereotypes of angry men and sulking women do not hold up, according to a new measure for irritability developed by psychologist Dr. Susan Holtzman and colleagues.

Susan Holtzman (University of British Columbia Okanagan) received a Methods and Measures for Gender, Sex and Health Catalyst Grant from the Institute of Gender and Health for "Understanding and measuring the construct of irritability in men and women."

MEASURING MEN

The Search for Better Measures for Better Health

Who are the men in men's health? How we define *men in research determines what we can learn about their health. From social identity to gene identification, researchers are devising new ways to capture diversity among men. Sexual orientation is one axis of diversity that, at first blush, may seem simple—we have categories for that: gay, heterosexual, bisexual. Yet, there are many components—such as behaviour, attraction and identity—that make up these labels. Depending on how we ask the question, these finer details can be lost by the very categories intended to account for diversity. Sexual minority health expert Dr. David Brennan is working to assess the limits of such categories and develop more fine-tuned approaches to sexual orientation in men. Or, what do we do when the standard binary designation for gender (man or woman) used in the majority of health research excludes individuals who are biologically male? Interestingly, the remote island nation of Samoa provides the perfect context in which to problem-solve this universal methodological challenge. Unlike most Western cultures, males in Samoa are socialized into two genders, allowing Dr. Paul Vasey, expert in the evolution of same-sex sexual attraction, to examine how social factors and human biology interact to shape both gender and sexual orientation. These more sophisticated measures of men are opening doors to new knowledge about men's health.*

Think You Know Gay or Bisexual? You Don't Know Jack

BY DAVID J. BRENNAN

Let's call him "Jack"—a 35-year-old man, experiencing flu-like symptoms, who decides he should see his doctor. Jack is married to "Felicia," and also has a male friend, "Marc," with whom he has sex with once or twice a month. When Jack arrives at his doctor's office, she reviews his file and sees Jack is married. She wonders about his symptoms, knowing that sometimes these symptoms can be a marker for an early HIV infection. She smiles and asks Jack, "Well, I can see that you are married, so I know you aren't gay, right?" Jack says, "Right." The doctor decides that an HIV test is therefore not necessary. Jack has not lied, he truly considers himself heterosexual. He really doesn't know many gay people. He loves his wife and enjoys his sex life with her, but some of his friends have had girlfriends on the side. For him, he just has a male friend who he discreetly enjoys having sex with, and they use protection most of the time. No one else knows. However, Jack may be at risk for HIV and other health issues as well, but his doctor did not assess this. Jack has missed an opportunity for testing and treatment.

As a reader of this story, you might assume that Jack is "gay" and just not admitting it, or at the very least he is "bisexual." Perhaps if the doctor asked him if he were bisexual, he might have said "yes." Perhaps not. Jack considers himself heterosexual; after all, he is married to a woman. This scenario raises some important questions in health research. How do we know if someone is actually a sexual minority? There is research to show that gay and bisexual men are at higher risk for some health issues, including HIV, but also other health concerns such as depression, anxiety, body image issues and eating disorders. Many studies have asked research participants to simply identify if they are gay, bisexual or heterosexual. If Jack were a participant in one of these studies he would be labelled heterosexual because this is how he identifies himself. Thus, one way to measure

sexual orientation is to ask people to identify if they belong to a category, such as gay, bisexual or heterosexual.

Another way to measure sexual orientation is to ask about behaviour. The doctor, who only asked Jack if he identified as gay, could have also asked about the sex of his sexual partners. Without assuming the partners are only his wife or other females, she could have asked Jack if he had any male sexual partners. Regardless of how he identifies, he is a man who has sex with both same and opposite sex partners. Over the last decade a new term has emerged called men who have sex with men (MSM). This term focuses on behaviour, regardless of identity. This type of categorization is one way to increase the chances that men who do not identify as gay or bisexual, but still have sex with other men, get the health-related information and services they need. However, the term MSM is limited too. No one really identifies themselves as MSM, per se. It is more of a term used by health researchers. Someone who might be called MSM will still likely have some sense of an identity label of their sexual orientation, be it gay, bisexual or heterosexual. Indeed, there is some controversy among researchers in this area because having a gay or bisexual identity is about more than sexual behaviour; it encompasses other aspects of one's social, cultural and political life. What if Jack was a youth or adolescent and was attracted to and interested in having sex with his friend Marc, but they never had sex. Would he be considered a sexual minority (gay, bisexual)?

The concern here is that if we want to advance our understanding of specific health issues such as HIV, other sexually transmitted infections (STIs), eating disorders, social stressors or other health concerns that impact gay and bisexual men or other MSM, we would need to really consider the best way to measure sexual orientation. So, what category would be best for Jack? And who decides? Our research project sought to answer these questions.

First, we undertook a major review of how health researchers have measured male sexual orientation in their studies. We found a variety of ways that science has measured sexual orientation in men. Of the 250 studies that were published in 2010 and looked at health and sexual minority men, we found that almost two-thirds of the studies looked at behaviour as a way to measure sexual orientation and about half used identity. (Some studies used more than one measure). A small number of studies asked about sexual attraction. Some studies used multiple measures and combined them into one. An example of this would be a study that looked at sexual behaviour and sexual orientation identity, but only considered the participants to be sexual minorities if they reported both being gay or bisexual and having had sex with another man. One study even used an odd measure that would have categorized two male roommates as being in a same-sex relationship!

Next we looked to see what would happen if we compared men who identify as gay or bisexual to those who do not identify that way, yet report sexual behaviour with other men. We looked at data from a very large dataset from the U.S. that asked men about both their sexual orientation identity and the sex of their sexual partners. Of the men who reported ever having had sex with another man in their life, nearly half of these men identified as heterosexual—this would have included our hypothetical Jack.

Our research suggests that to better address men's health, it is best to use multiple measures of sexual orientation, including behaviour and identity. If Jack's doctor had been aware of our study results, she may have asked him about the sex of his sexual partners and suggested a different course of testing.

"Are gay men really MSM? Methodological Issues in Measuring Male Sexual Orientation in Health Research" was funded by a Methods and Measures for Gender, Sex and Health Catalyst Grant from the Institute of Gender and Health and led by co-principal investigators David J. Brennan (University of Toronto) and Greta Bauer (Western University).

Over the last decade a new term has emerged called men who have sex with men (MSM)... men who do not identify as gay or bisexual, but still have sex with other men...

"In the Manner of a Woman:" Born or Bred?

BY PAUL VASEY

I first travelled to Samoa, with my colleague Dr. Nancy Bartlett, to critically examine a prevailing assumption embedded in the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders:* that extreme boyhood femininity (or in clinical parlance, Gender Identity Disorder in Childhood) causes psychological distress. As has often been pointed out to me, Samoa is a long way for a Canadian to commute to work. True. But the reality was that Canada represented a poor location in which to conduct our work because Canadian boys and men alike are censured for feminine behaviour. This situation makes it is difficult to disentangle whether any distress that might be present is caused by boyhood femininity itself, or by social condemnation.

The tiny Polynesian island nation of Samoa offered a way out of this conundrum. In Samoa, feminine males are accepted as unremarkable and quotidian members of society. They are known locally as *fa'afafine*—a type of "third" gender that are recognized as being neither "men" nor "women." Because *fa'afafine* (which means "in the manner of a woman") are, by and large, not stigmatized, we reasoned that any distress they might experience in relation to their femininity could not be attributed to societal "sissyphobia." Armed with the telephone number of a single *fa'afafine* contact, Nancy and I headed off to the South Pacific. After two fieldtrips, we had enough data that we could say something definite about our research question. In a nutshell, we found no evidence that the expression of female-typical behaviours in childhood provoked distress in Samoan *fa'afafine.* More often than not, *fa'afafine* recalled that they "loved" engaging in activities that were more typical of girls. Reflecting on "her" childhood, one *fa'afafine* participant told us: "With cars, it's just zoom...it's no use. I loved playing with dolls. When my sister had a Barbie with long hair, it was like a diamond for me."

After publishing this work in *Perspectives in Biology and Medicine,* Nancy and I became interested in studying childhood separation anxiety in Samoa. We knew from reviewing the research that feminine boys in Western cultures (most of whom grow up to be androphilic, that is, sexually attracted to adult males) exhibit elevated traits of separation anxiety. Given their feminine nature, we wondered whether *fa'afafine* (most of who also grow up to be androphilic) might recall elevated traits of childhood separation anxiety compared to Samoan men and women. Our research demonstrated that this was indeed the case and we speculated that childhood separation anxiety might represent a universal pattern of psychosexual development shared by the vast majority of feminine, pre-androphilic boys, regardless of the cultural context in which they grew up.

To test this possibility further, my then doctoral student, Doug VanderLaan, along with Nancy and myself, conducted a retrospective study of childhood separation anxiety in Canadian heterosexual and homosexual men and women. We found that Canadian homosexual men recalled significantly more traits of childhood separation anxiety compared to heterosexual men, but they did not differ in this regard from heterosexual women. Moreover, the more feminine a homosexual man was as a child, the more at risk he was for experiencing traits of separation anxiety. I am now collecting data in the Kansai region of Japan to ascertain whether same-sex attracted Japanese men also recalled elevated traits of childhood separation anxiety. If so, this would shore up even further our contention that elevated traits of separation anxiety is a cross-culturally invariant dimension of feminine, pre-androphilic boyhood.

Doug, who is now a postdoctoral fellow in my lab, went on to conjecture in an article that we published in the *Journal of Gay and Lesbian Mental Health,* that elevated traits of separation anxiety in feminine boys might be linked to the expression of pro-social behaviour. To test this idea, Doug and Lanna Petterson, an undergraduate student in my lab, conducted another retrospective study in which we examined two distinct aspects of childhood separation anxiety: anxiety due to separation from kin versus anxiety due to worry about the wellbeing of kin from which one is separated. What we found was that homosexual men recalled significantly more worry about the wellbeing of kin compared to heterosexual men, but they did not differ in this regard from heterosexual women. This finding is consistent with the conclusion that androphilic males' experience of childhood separation anxiety is intimately tied to concern about the welfare of close family members. Moreover, the more feminine a homosexual man was as a child, the more at risk he was for experiencing traits of separation anxiety. Whereas traditional clinical perspectives have tended to characterize the co-occurrence of femininity and elevated childhood separation anxiety as psychopathological, our research suggests that this co-occurrence may have a socially beneficial basis.

PHOTO: DEANNA FORRESTER

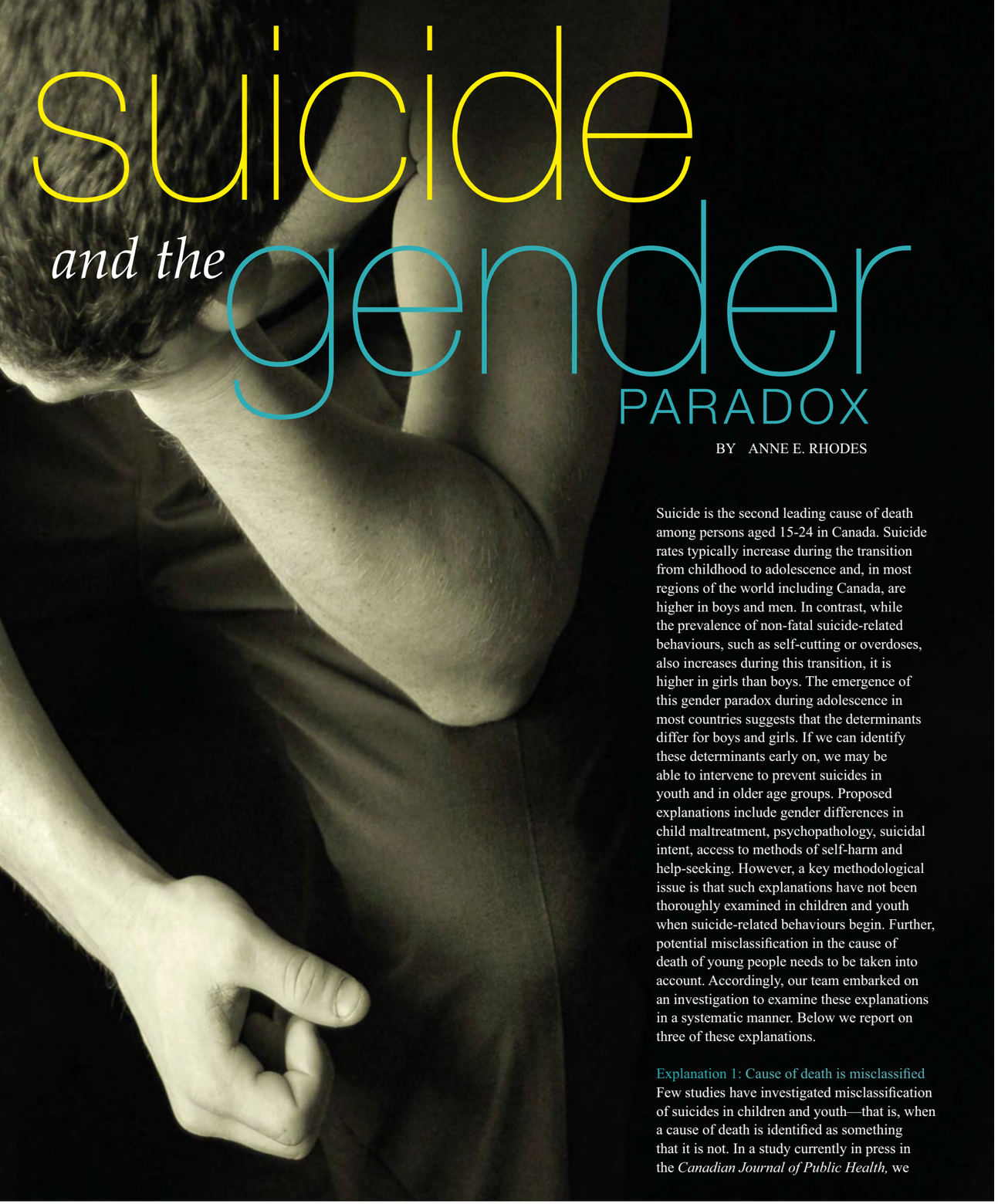
Paul Vasey interviews two *fa'afafine* in a Samoan village.

I am currently undertaking a study with Dr. Andrew Paterson, a geneticist at The Hospital for Sick Children in Toronto, to identify genes associated with male androphilia in Samoa. Over the past year, I spent five and a half months in Samoa collecting questionnaire data and saliva samples from over 500 men and *fa'afafine*—a truly massive dataset by cross-cultural standards. Analyses conducted in Andrew's lab show that sufficient DNA for further analysis is present in almost all of the saliva samples. The next step in this line of research will be to conduct a genome-wide association study to pinpoint genes associated with male sexual orientation. These types of studies compare the frequencies of genes between individuals who have the trait of interest (in this case, same-sex sexual attraction) and those who do not. The same genetic data will also be analyzed for associations with health-related correlates such as childhood separation anxiety, which are being assessed via questionnaires. Providing insight into the genetics of male androphilia and some of its health-related correlates, could improve understanding of this trait as well as health outcomes for such individuals.

Somewhat paradoxically, this work may also contribute to understanding genes associated with women's reproductive health because, as our previous research suggests, shared "sexually antagonistic" genes may underlie both male androphilia and elevated fecundity (reproductive capacity) in the female relatives of male androphiles. The Sexually Antagonistic Gene Hypothesis holds that genes associated with androphilia produce reproductive benefits in females that balance out the reproductive costs that are incurred when the same genes are expressed in males. In line with this hypothesis, my research group and I have shown that the female kin of *fa'afafine* (i.e., mothers, grandmothers) produce more offspring then those of Samoan heterosexual men. My current doctoral student, Deanna Forrester, is undertaking a series of experimental and questionnaire-based studies to ascertain what psychological or physiological mechanisms might underlie these group differences in offspring production. Initial results from Deanna's mate choice experiments suggest that the sisters of *fa'afafine* have a unique mating psychology that differs from the sisters of heterosexual men.

I think that this work furnishes a wonderful example of how "basic" research in a remote, foreign location like Samoa can have unexpected and beneficial "applied" implications for Canadian health and society.

Co-principal investigators Paul Vasey (University of Lethbridge) and Andrew Paterson (University of Toronto) received a Methods and Measures for Gender, Sex and Health Catalyst Grant from the Institute of Gender and Health for "Identification of genes influencing male sexual orientation on a Polynesian island."



suicide and the gender PARADOX

BY ANNE E. RHODES

Suicide is the second leading cause of death among persons aged 15-24 in Canada. Suicide rates typically increase during the transition from childhood to adolescence and, in most regions of the world including Canada, are higher in boys and men. In contrast, while the prevalence of non-fatal suicide-related behaviours, such as self-cutting or overdoses, also increases during this transition, it is higher in girls than boys. The emergence of this gender paradox during adolescence in most countries suggests that the determinants differ for boys and girls. If we can identify these determinants early on, we may be able to intervene to prevent suicides in youth and in older age groups. Proposed explanations include gender differences in child maltreatment, psychopathology, suicidal intent, access to methods of self-harm and help-seeking. However, a key methodological issue is that such explanations have not been thoroughly examined in children and youth when suicide-related behaviours begin. Further, potential misclassification in the cause of death of young people needs to be taken into account. Accordingly, our team embarked on an investigation to examine these explanations in a systematic manner. Below we report on three of these explanations.

Explanation 1: Cause of death is misclassified

Few studies have investigated misclassification of suicides in children and youth—that is, when a cause of death is identified as something that it is not. In a study currently in press in the *Canadian Journal of Public Health,* we looked at 1,294 suicides, 961 accidental and 254 undetermined deaths occurring between January 1, 2000 and December 31, 2007, among persons aged 10 to 25 years in Ontario, Canada. Using data from Coroner's records, we reclassified causes of death based on existing research to help us detect possible errors in the cause of death assigned to cases. We calculated actual and reclassified suicide rates by sex and age group and by year of death. Both before and after reclassification of suicide deaths, sex differences in suicide rates emerged in the 16-25 years age group. In each study year, both actual and reclassified suicide rates were higher in males than females.

Thus, we concluded that gender differences in suicide rates emerging in adolescence are unlikely to be due to misclassification.

Explanation 2: Boys and girls seek help differently

This explanation assumes that, among children and youth, females may be less likely to die by suicide than males because of a greater willingness to seek help and discuss emotional problems. But testing this explanation requires accurate information about how children and youth use health services in the year before their death—information that is hard to come by. We linked Coroner's data to health care administrative records (outpatient medical, emergency and inpatient) for young people who died by suicide in Ontario.

Our preliminary findings suggest that while about 80% of children and youth who died by suicide had some contact with health care services in the year prior to their death, females were more likely to have contact and also, a greater number of such contacts. However, this female predominance (emerging in adolescence) was not specific to mental health for outpatient medical contact(s) and not present for outpatient psychiatry use, inpatient stays and some emergency department presentations. In fact, for specific conditions presenting to the emergency department, males surpassed females.

In sum, we cannot rule out this explanation as contributing to the gender paradox. Further study is needed to confirm these findings and whether such conditions (and related service use) place boys and men at a greater risk for suicide than girls and women. For example, due to the nature of these conditions, these males may be particularly difficult to engage and/or retain in outpatient medical care, highlighting the importance of research into preventing these conditions from the outset and the need for intensive early intervention in settings where these males present.

Explanation 3: Gender differences in child maltreatment

Research has documented an association between suicide attempts in children and youth and childhood physical and sexual abuse. A suicide attempt is one of the strongest predictors of actual suicide in children and youth. We undertook a systematic review of the research evidence, published in the journal *Suicide and Life-Threatening Behavior,* and found that across studies the association between child sexual abuse and suicide attempts was stronger in boys than girls. While further research is needed, it is possible that the nature, timing and sex of the perpetrator is particularly traumatic for boys, and shapes their disclosure of the abuse and thus, their help-seeking, placing them at greater risk of suicide.

Thus, we cannot rule out this explanation as contributing to the gender paradox either. (In fact, it may contribute, in part, to explanation 2). We are currently completing another systematic review with the Injury and Maltreatment Section, Health Surveillance and Epidemiology Section, Public Health Agency of Canada to determine whether the stronger association observed with suicide attempts in boys than girls also extends to suicide deaths.

From Paradox to Prevention

Both explanations 2 (differences in help-seeking) and 3 (differences in child maltreatment) are plausible and explanation 3 may influence 2. Therefore, our team is examining these possibilities further. We also plan to investigate how other possible explanations (not yet examined) may be related to explanations 2 and 3 and contribute to the gender paradox. Overall, a better understanding of the gender paradox will help us better develop interventions to prevent suicide. IGH

Anne Rhodes (University of Toronto) received a Methods and Measures for Gender, Sex and Health Catalyst Grant from the Institute of Gender and Health for "Access to Care for Suicidal Boys and Girls." Research team: Anne E. Rhodes, Saba Khan, Michael H. Boyle, Christine Wekerle, Deborah Goodman, Lil Tonmyr, Jennifer Bethell, Bruce Leslie, Hong Lu, Ian Manion

NEWS BRIEFS

CIHR SIGNATURE INITIATIVES

CIHR Signature Initiatives represent major investments in priority health areas that will help CIHR allocate its resources to make the strongest possible impact on health and health care. Gender and sex are important in all of these initiatives and IGH investments will support the incorporation of gender and sex considerations across a number of these programs. For example, with the Institutes of Aboriginal People's Health and Population and Public Health, IGH is co-leading the development of Pathways to Health Equity for Aboriginal Peoples. This initiative aims to increase the capacity of Aboriginal communities to act as partners in the conception, oversight and application of high quality research to reduce the health disparities among Aboriginal Peoples. IGH is also pleased to be a partner on the Canadian Epigenetics, Environment and Health Research Consortium, the Community-Based Primary Health Care Initiative, the International Collaborative Research Strategy for Alzheimer's Disease and the Strategy for Patient Oriented Research.

GENDER, WORK AND HEALTH CHAIR PROGRAM

IGH and its partners are pleased to launch a five-year Research Chair program in gender, work and health. With a $4.8 million investment from IGH, this Chair program represents a major initiative to directly advance the Institute's strategic direction "work and health: research into action." Gender and sex influence how we define jobs and divide work, whether worksites and equipment are physically suited to women's and men's bodies, and how risks such as occupational exposures affect workers who may vary by gender, sex or related characteristics such as body size, body fat levels, reproductive status or hormone levels. The Chair program will support a multidisciplinary group of leading researchers to develop their programs of research in gender, work and health, build capacity for research on work and health that accounts for gender and sex, and foster the translation of that research into gender- and sex-sensitive policies and interventions that improve workers' health. IGH

YOUNG ADULT PARENTHOOD

library science's latest revelation

BY DEVON GREYSON

CECILE* IS EXPECTING HER FIRST CHILD. AT AGE EIGHTEEN she will be a young parent by Canadian standards. She is determined to be a good mother, despite the challenges she will face. At her first prenatal appointment, Cecile receives a lot of advice from her doctor, leaving with a handful of pamphlets on nutrition, exercise, weight gain, quitting

smoking and an optional group prenatal care program. On the bus home, she notices an ad telling her to put her baby "Back to Sleep," and overhears two women loudly discussing whether or not to give their children the chicken pox vaccine. In addition to passing her exams and finding a new apartment, it suddenly seems like there are many, many more things to think about.

Informational interventions—whether delivered in person by health care providers or via the media—are a major element of Canada's public health toolkit. These education campaigns, on behalf of both governmental and non-governmental entities, aim to increase knowledge and awareness of health issues, with the end goal of encouraging healthy behaviours.

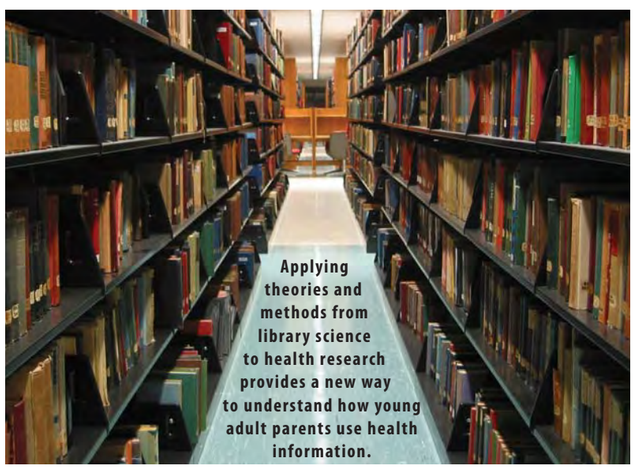
Prenatal and infant health has long been a priority area for public health efforts. Information campaigns attempting to control behaviour and prevent adverse events instruct expectant and new parents to stop smoking, refrain from alcohol while pregnant, mind their nutrition, seek prenatal care, immunize their infants and place their babies to sleep in certain ways, among other things. Such messages are prominent on government websites, in parenting magazines, on billboards, in clinic waiting rooms—and even in semi-private locations such as restaurant washrooms.

Given that pregnancy is linked with biological sex, and caregiving is a highly gendered phenomenon, these messages are delivered in specific ways: for example, stickers advising against alcohol consumption during pregnancy may be placed only in women's washrooms, and pamphlets about infant sleep may be printed in pink and pastel hues, in order to appeal to an audience that is presumed to be female and feminine-identified.

From the local to the international level, we invest resources in information campaigns aimed at improving the health of parents—especially "high risk" parents such as teenagers—and their children. But what do we know of the effectiveness of these interventions in improving health outcomes for young parents and their children? The answer is that we know remarkably little.

Certain information campaigns, such as those aimed at safe sleep for newborns, appear to be associated with the intended outcome—in this case a reduction in the incidence of sudden infant death syndrome (SIDS). Others, such as some of the efforts to eliminate alcohol consumption during pregnancy, appear to have little effect on actual behaviour. We are "pushing" messages out into the community, but are our messages being received and understood as originally intended? Are these investments effective? And, where public health information is not creating the desired effect, what *is* influencing health behaviour?

As Cecile's pregnancy progresses, she receives a deluge of pregnancy-related advice from friends and even total strangers on the street. At her after-school job, for example, the older women all have plenty of guidance for Cecile. But not all of it seems to agree with what Cecile's doctor tells her. Confused, Cecile asks her mother, "Is it true that I can only sleep on my left side? Or that I shouldn't eat tuna fish?" Her mother shrugs, telling Cecile, "I don't really know what to tell you. Twenty years ago, my own doctor said that babies should sleep on their tummies—now they say the opposite. What can I say? Times change."



Applying theories and methods from library science to health research provides a new way to understand how young adult parents use health information.

The current trend in public health toward being "evidence informed" pushes us to ensure that interventions, such as information campaigns, are informed by scientific research. Within the body of research attempting to determine what works to improve the health of the population, a stream of scholarly critique of public health information campaigns has emerged.

Existing research in this area has cast doubt on the effectiveness of messages of fear and risk, for example the famous "This is your brain on drugs" fried-egg advertisements of the past three decades. Scholars have also raised ethical concerns over campaigns based on poor evidence as well as those employing semi-coercive "marketing" techniques (such as misleadingly scary cancer statistics) to encourage behaviour change in the absence of fully informed consent.

One way of improving our understanding of the impact of public health messages on people's actual lives, experiences and decisions, is to reach outside of theory and methods traditionally used by health researchers, to those used by library and information scientists. Library and information science has a rich tradition of research aiming to understand the way people interact with information in health as well as other domains.

> **"Over the course of her pregnancy, Cecile has many niggling, little questions–many of which don't seem worth a trip to the doctor... To find quick answers, she looks things up online..."**

Over the course of her pregnancy, Cecile has many niggling, little questions—many of which don't seem worth a trip to the doctor—such as whether or not it's okay to take medicine for a headache. To find quick answers, she looks things up online, or asks friends on Facebook.

Library and information science draws on behavioural research in the social sciences to study people's information needs as well as the techniques they use to seek, avoid, access, assess, use and share various types of information. While information behaviour research has not always been conducted in a way that is highly gender-sensitive, blending information behaviour theory and methods with those of population health intervention research enables us to answer questions such as: How do young parents identify information needs? Where and how do they seek information, and why do they use the sources they do? What do they do with the information they find and receive? Which information is considered to be trustworthy, useful, valuable and relevant? What information ultimately influences the health decision-making of childbearing youth?

By taking a gender-sensitive, interdisciplinary approach to exploring the health-related information practices of childbearing and parenting youth, we may gain valuable insight into the true impact of public health efforts to "push" information to Cecile (and her expectant-father boyfriend). This, in turn, can aid health systems in providing information interventions in a way that best support the development of healthy young families.

**"Cecile" is an amalgam of anecdotes and hypothetical situations; any resemblance to a specific individual is purely coincidental.*

CIHR Vanier Canada Graduate Scholar Devon Greyson is a doctoral student in the Interdisciplinary Studies Graduate Program at the University of British Columbia (supervisor: Jean Shoveller), and was a participant in the 2011 IGH Summer Institute. Greyson's thesis investigates the health-related information practices of childbearing youth.

IGH COCHRANE CORNER

Methods for Selecting and Summarizing Reviews

The IGH Cochrane Corner is a resource to promote considerations of sex and gender in systematic reviews. The Corner provides access to plain language summaries of systematic reviews that report on the strengths and weaknesses of the approaches to sex and gender used by review authors. This edition of the Column details the methods by which reviews are selected and summarized and how summaries are peer reviewed for the IGH Cochrane Corner.

SELECTION PROCESS

In selecting reviews for inclusion in the Corner, we consider the following criteria:

1) Fit with IGH's strategic directions

2) State of completion and date of publication

We only select completed systematic reviews and prioritize those that are most recent.

3) Impact on men and women

Given that our interest is to analyze how reviews consider sex and gender in terms of reported details such as sample populations and outcomes, we limit review topics to issues that affect both men and women, rather than those that are sex specific.

SUMMARIES: SEX AND GENDER ANALYSIS

While authors include plain language summaries in their systematic reviews, these summaries often remain technical. The summaries created for the IGH Cochrane Corner are written so that specific topic knowledge is not required to understand the variety of reviews presented.

These summaries:

- Introduce and define the topic of the review;
- State the objectives of the review;
- Identify the overall results from a sex and gender perspective;
- Evaluate the approach to sex and gender used in the review; and
- Assess the overall implications of the review findings in terms of sex and gender.

In reporting review results and evaluating the approach to sex and gender, our summaries address three questions related to sex and gender: *(continues on page 15)*

TRAINEE SPOTLIGHT ... 4 Questions for Nadia Lakis

Our understanding of the influence of biological sex on brain function in schizophrenia patients is extremely limited, possibly due to the shortage of women recruited for participation in these studies. Nadia Lakis, PhD student in the psychiatry option of biomedical science at the Université de Montréal (supervisor: Dr. Adrianna Mendrek), is working to fill this gap. Her research is the first exploration of sex differences in brain functioning associated with emotional memory in people with schizophrenia. Nadia is one of two recipients of the 2011 CIHR-IGH Award for Excellence in Gender, Sex and Health Research.

Hometown: Montréal
Last book I read: *The Girl who Kicked the Hornet's Nest*
Favourite food: Lindt's crunchy caramel chocolate
My motto is: Everything happens for a reason
A little-known fact about me is: I knit all my winter scarves
When I am not at my computer, I'm most likely: With my nephews
Something I would like to try once is: Travel to Thailand

1. What is emotional memory and why is this important to study in people with schizophrenia?

On the one hand, emotional memory refers to the notion that very emotional events are more likely to be remembered as opposed to those that are more mundane (e.g., a traumatic car accident versus what you ate for dinner two weeks ago). Emotional memory may also refer to how an object, event or even a person can make us feel by triggering an existing memory that has emotional significance. In schizophrenia, the processing of emotion and memory is impaired. Since our emotions and memories are inexorably linked, studying the processing of emotional memories in individuals with schizophrenia provides a unique opportunity to examine the interaction between cognition and emotion in this psychiatric population. We can advance our understanding of the basic mechanisms of emotional memory in these individuals.

2. What led you to look at sex differences?

First, there is abundant evidence that sex influences the neurobiology of emotional memory functions, from the cellular to behavioural levels, in the healthy population. Also, the literature is filled with reports of differences between men and women with schizophrenia in almost all aspects of the disorder from its clinical expression to its epidemiology. With so much evidence of sex differences, it was surprising that no one had explored sex differences in brain function associated with emotional memory in schizophrenia—a perfect gap for my research.

3. Some people say that studying sex differences is expensive and challenging—what do you say?

Investigating sex differences can be expensive depending on your experimental design. In our case, we used functional magnetic resonance imaging (fMRI) which is already an expensive technique and since we were looking at healthy and schizophrenic men and women separately, we had four experimental groups to scan instead of two. Regardless, there is so much evidence that sex influences the expression and experience of schizophrenia that it is no longer incumbent on those investigating the possibility of sex influences in their research to justify why they do so—it is incumbent on those not doing so to justify why not. It is important for all investigators to challenge the myth that sex doesn't matter in their work.

4. How do you see your research helping people with schizophrenia?

My research will contribute to the understanding of sex differences in the brains of schizophrenia patients, which will further contribute to our knowledge about basic mechanisms of emotional memory in this population. This work also has the potential to influence future development of sex-based clinical interventions for schizophrenia (e.g., at the level of antipsychotic medication use, psychosocial and cognitive remediation therapy).

KT MONITOR

STOP BULLYING: use your WITS!

by Bonnie Leadbeater

THE PROBLEM

Spousal abuse, a problem that disproportionally affects women, starts early, and threatens family formation and stability. According to Statistics Canada, younger Canadians, aged 25 to 34 years old, are three times more likely than those aged 45 and older to report that they have been physically or sexually assaulted by their spouse. The younger prevention starts, the better. Our CIHR funded, 10-year longitudinal research project examines predictors of aggression in romantic relationships from adolescence to young adulthood. Findings clearly show that physical and relational aggression in romantic relationships is more likely among young adults who experienced aggression in their families and peer networks. Many bullying prevention programs for children and youth exist; however, just because they exist does not mean they are used! We need to know more about how to promote the uptake of prevention and mental health promotion programs by educational and health services providers who work directly with children and their families at a national scale.

THE KT SOLUTION

To do this, our efforts are focused on the dissemination of the evidence-based WITS (Walk Away, Ignore, Talk it Out and Seek Help) programs at a national scale. Police, educators and researchers at the University of Victoria, developed the WITS and WITS LEADS (Look and Listen, Explore Points of View, Act, Did it Work? and Seek Help) programs in a 14-year partnership. These programs have been extensively evaluated and all resources including training programs are available online (www.witsprogram.ca) without cost. The WITS program is for kindergarten to grade 3 and the WITS LEADS program adds a leadership element to WITS messages for students in grades 4 to 6 to help them deal with relational peer victimization. The programs aim to create responsive communities for the prevention of peer victimization by engaging parents, schools staff and community leaders (such as city police or RCMP, first responders, mayors, elders, athletes, youth leaders, etc.). The WITS messages create a common language that help children "use their WITS" to solve peer conflicts peacefully or to get help when needed. In collaboration with the national bullying prevention network PREVNet and the RCMP's National Youth Officers program, we began piloting the dissemination of WITS Programs.

PHOTO: BONNIE LEADBEATER

RCMP officer with children enrolled in WITS.

THE RESULT

Since December 2011, RCMP officers from rural and remote sites in 7 provinces across Canada received training to catalyze program start-up. These RCMP members have already engaged eleven schools and 1,380 children and their parents in the program's activities. Their efforts are already generating positive feedback from the schools, children, community representatives and media.

In our first of three follow-up interviews, the onsite RCMP members identified many factors that have enhanced the quick launch of the WITS programs including: community-wide discussion on bullying prevention that laid the groundwork before the programs were introduced; school principal leadership and enthusiasm; willingness of community representatives (beyond the RCMP) to join the swearing-in-ceremony that kicks off the program; time set aside for classroom teacher training; and the program's favourable fit with other school initiatives.

For the RCMP, the impact may also go beyond violence prevention. One officer describes the value of the pilot saying: "Programs like WITS are so very much needed, because it gives the kids a positive interaction and relationship with police, because many of these kids see us in their everyday life at home. The school, teachers and principal are all great, and so is the Band Council." Communities can work together to halt relationship violence.

Bonnie Leadbeater (University of Victoria) received funding for "Toward the National Dissemination of Mental Health Promotion Programs for Children" through an Institute of Gender and Health Priority Announcement in CIHR's Dissemination Events program.

(continued from page 13)

1) How were sex and gender considered in the review?

Considering sex and gender means looking at how a given intervention may affect men and women or males and females differently, or how sex and gender may have influenced the outcomes of the intervention. Sex and gender implications may be described in the background information provided in a review or through a subgroup analysis. This also involves assessing the applicability of evidence; if the studies used in the review included participants of only one sex or gender, its conclusions may not be universally applicable.

2) What are the strengths and weaknesses of the approach to sex and gender?

Here, we highlight the strengths of the authors' approach to sex and gender, as well as areas that could be improved upon. A common strength or weakness results from whether or not review authors distinguish between the terms 'sex' (biological) and 'gender' (socio-cultural). Other strengths result from the extent to which authors are able to present disaggregated findings, on the basis of not only sex or gender but other intersecting grounds as well. In some cases, the authors of systematic reviews intend to do a subgroup analysis by sex but are limited by a lack of data from primary studies.

3) What do we know about sex and gender based on this review?

This section is used to highlight implications for policy and practice as well as for future research in relation to health equity. Implications for policy and practice focus mainly on whether or not the systematic review supports the intervention as effective. Here, we also examine the different implications that findings may have according to sex or gender. However, if findings were inconclusive, further research may be recommended.

PEER REVIEW PROCESS

Before the summaries are published in the IGH Cochrane Corner, they are sent to the original review authors for consideration. This gives the authors the opportunity to respond to the summary and make recommendations.

Visit the Corner at
http://www.cihr-irsc.gc.ca/e/42414.html

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