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Quality of Life and Sources of Stress in Teachers: A Canadian Perspective

Jessica R. Danilewitz, *The University of Western Ontario*

Supervisor: Dr. Susan Rodger, *The University of Western Ontario*

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Abstract

Previous research has reported that teaching is one of the most stressful occupations in the world. The present study examined the experience of teachers' Quality of Life (QOL) and stress, and the relationship between QOL and the source (home life, work-life, or work-life balance) of stress in Canadian teachers. Data for the study was obtained from a comprehensive online survey of female full-time elementary and secondary school teachers across Canada (n = 227). Results demonstrated that all QOL scale scores were lower in the present study, as compared to previously published community sample literature. Of the three sources of stress, personal life stress emerged as the single significant predictor of general health QOL, and personal life stress and work-life stress scores were found to be significant predictors of psychological health QOL. Understanding the sources of stress and QOL of teachers will be essential to help guide future research and best practices in addressing teacher QOL.

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Quality of Life and Sources of Stress in Teachers: A Canadian Perspective

Previous research has reported that teaching is one of the most stressful occupations in the world (Johnson et. al., 2005). Questionnaire data has indicated that approximately one fourth of school teachers reported their jobs as "very or extremely stressful" (Kyriacou, 2001). High levels of work stress have been reported by teachers worldwide (Leroux & Theoret, 2014). Researchers are now making the case for a connection between stress and turnover; indeed, Leroux and Theoret (2014) noted that in Quebec, Canada, approximately 20% of teachers leave the profession within the first five years of working (MELS, 2009). This trend is even more evident as we move west: Clandin et al., (2015) reported that in the Canadian province of Alberta an attrition rate of 40% within the first five years of teaching. This can be compared to a 30% attrition rate reported in Australia (Peters & Pearce, 2012), and 46-50% in the U.S. (Jalongo & Heider, 2006). Given the current trend toward teachers being considered 'front-line workers' for mental health with the expectation that teachers support the mental health of their students (Kirby, 2013), there is a growing need to address teacher stress/distress as related to their overall well-being and ability to engage in active home and work lives and the experience of their students. For example, recent research has identified a relationship between teacher emotional exhaustion and student academic achievement and school satisfaction (Arens & Morin, 2016). Quality of life (QOL) may be one protective factor in the ability to deal with stress (Yang, Ge, Hu, Chi & Wang, 2009) and may have implications for both the mental and physical health of teachers, and the experience of their students. Consequently, the present study aimed to explore the sources of stress and quality of life (QOL) of Canadian teachers, to expand what is known and to help to guide and improve interventions to best help teachers.

Teachers as "front line workers"

Teachers are in constant contact with their students, spending the most time with students while at school and providing the main source of instructional supports for their students during the school day (Ball & Anderson-Butcher, 2014). It is important to acknowledge that teachers adopt a caregiving role in their profession. This is signified by the Education Act of Ontario, which dictates that teachers should act in place of parents or "in loco parentis" while at school (Government of Ontario, 2015). Such responsibility dictates that teachers attend to the whole child; indeed, recent research suggests that teacher's relationships with their students may be significant in addressing student social-emotional functioning (Phillippo & Stone, 2013). Acting as a surrogate parent during the school day, teachers have a duty of care to add to their list of professional responsibilities which is enforced by the Criminal Code of Canada (Sitch & McCoubrey, 2001). Teachers are also charged with the duty to report to child welfare agencies with suspicions of risk of abuse or maltreatment (Weston, Anderson-Butcher and Burke, 2008). These responsibilities add to the daily work related responsibilities that teachers hold which include: lesson preparation according to curriculum standards; preparation of lesson materials; marking, report cards; supervision duties; extra help for students outside of class time; communication with parents; in addition to attending meetings and consultation with administration; support staff and co-workers.

Beyond their educational and academic responsibilities, teachers are expected to spot first signs of barriers to learning (mental illness, bullying, abuse, learning disabilities, poverty) and serve an instrumental part of advocacy, intervention strategies and the provision of supports for their students in need (Ball & Anderson-Butcher, 2014).

Teaching as a Feminized Profession

According to census Canada, 2011, 2.9% of women in the workforce were elementary school and kindergarten teachers, occupying the fifth most common female profession (Statistics Canada, 2016). Further, the 2006 Canadian census reported that women make up 73.2% of all full-time teachers in the public elementary and secondary school system (Statistics Canada, 2016). It can therefore be understood that teaching remains a feminized profession in Canada, which is consistent with other countries in the world (e.g., Australia; Brennan, 2009).

A recent review by Duxbury and Higgins (2012) assessed the balance between work and caregiving in Canada. This study found that work-life balance stressors are increasingly pertinent to females, who are still more likely than men to take on primary childcare and the household responsibilities within the family (Duxbury & Higgins, 2012). Furthermore, caregiver strain is experienced by one in five Canadians participating in the work force and is therefore a prevalent concern (Duxbury & Higgins, 2012). Thus, female teachers are experiencing both a stressful work environment in addition to assuming primary responsibility within the context of the home. Work-life balance stressors have a significant impact on the health of an individual as it has been shown to lead to caregiver strain, lead to reduced energy for coping activities, reduced amount of sleep and energy (Duxbury & Higgins, 2012). Work-life conflict has also been demonstrated to be correlated with work performance, in terms of both absenteeism and productivity (Duxbury & Higgins, 2012). Consequently, Duxbury and Higgins (2012) highlight the immense impact that stressors from work-life balance have on both the professional and psychological areas of a worker's life. Given the large portion of women in the teaching profession in Canada, and their unique caregiving role both at home and at work, the present study will be focusing on women, teaching, stress and QOL.

Quality of Life (QOL)

The present study utilized the definition for QOL provided by the World Health Organization which explains QOL as an ‘‘individual’s perceptions of their position in life in the context of the culture and value systems in which they live’’ (p. 1, The WHOQOL Group). The WHO characterized QOL as having six main categories: physical health, psychological health, social relationships, environment, level of independence, and spiritual/religion/personal beliefs (Garcia-Rea & LePage, 2010). Hattie, Myers, and Sweeney (2004) present of the concept of wellness as being a natural part of QOL and they propose a global wellness factor in addition to five supplementary composite factors. These factors of wellness include: physical (exercise and nutrition), essential (gender/cultural identity, spirituality), social (relationships), creative (emotion, control, humor, work), and coping (beliefs, leisure, stress, and self-worth). It is noteworthy here, in the context of the contemporary Dual Continuum Model of Mental Health (Keyes, 2007), that the addition of essential wellness as a factor in QOL is relatively new. Finally, a meta-analysis conducted by Schalock (2004) examined 16 studies on QOL that specified eight core domains of QOL. These domains included interpersonal relations, social inclusion, personal development, physical well-being, self-determination, material well-being, emotional well-being, and rights (Schalock, 2004). Thus, QOL has been categorized differently across the literature but commonly assesses components of global well-being and factors similar to the QOL categorization used in the present study.

Overall, it can be understood that QOL is a global term that at minimum encompasses social well-being, environmental well-being, physical well-being, and psychological well-being. Social well-being includes one’s interpersonal life and relationships. Environmental well-being can be understood as feeling safe in one’s environment. Physical well-being would incorporate

physiological health and well-being e.g., strength, diseases, fitness, and medical conditions. Lastly, and for the purposes of the present study, psychological well-being can be understood as emotional and mental health.

There are several theories that may be relevant to QOL. Organismic Meta Theory takes a multidimensional approach to QOL and explains that because QOL is an umbrella term that encompasses multiple aspects of well-being, one theory will not be adequate in explaining QOL as a whole (Ryan & Deci, 2000). Another perspective is through Self-Determination Theory, which posits that there are three innate psychological needs that form the foundation for self-motivation and personality through supporting optimal functioning and well-being, namely competence (self-efficacy), relatedness (interpersonal relationships), and autonomy (independence, freedom) (SDT; Ryan, Kuhl, & Deci, 1997). From this approach, it can be understood that an individual who has a strong sense of competence, relatedness and autonomy will have positive QOL. On the other hand, an individual who experiences strong feelings of competence and autonomy but not relatedness will have a less positive QOL. SDT overlaps significantly with the four factors that contribute to QOL identified by Schalock (1990), social belonging/community integration, empowerment/independence, competence, and satisfaction (Schalock, 1990). Self-Determination Theory also posits that autonomous (intrinsic) motivations, which may be part of one's work life (e.g., self-fulfilling work, supportive work environments), help foster enhanced well-being (Moran, Diefendorff, Kim, & Liu, 2012). Thus, it can be posited that finding meaning in one's profession as a teacher can help to increase QOL and may buffer against the negative effects of work related stressors.

Another theory that may be relevant to QOL is Relational Cultural Theory, theorized by Jean Baker Miller in 1976 (Jordan, 2008). Relational Cultural Theory comes from a feminist,

multicultural and social justice informed perspective and posits that "healing takes place in the context of mutually empathic, growth-fostering relationships" (Comstock et. al., 2008). This theory explains that individuals, especially women, grow through and towards relationships (Jordan, 2008). Using Relational Cultural Theory to understand teaching, a female dominated and stressful profession, it can be understood that growth fostering relationships with other co-workers and social support from educational administration are integral to maintaining adequate mental health and QOL. Thus, it was predicted that QOL will be enhanced when one is supported by authentic and empathetic relationships. Furthermore, the importance of authentic relationships can be used to understand stress. For instance, using Relational Cultural Theory it can be predicted that personal stress will be more detrimental towards QOL than work place stress because of the importance of genuine relationships, which are an integral component of one's personal life.

Stress

The concept of stress was first introduced by Selye in the 1950's who coined the term "stressor" to mean any external force applied to an organism leading to the experience of stress – a reaction resulting from that applied force (Selye, 1956). In the years that followed, the term has gained popularity in both the realm of academia, and the popular media, but the definitions and applications have become more generalized. The specific term "teacher stress" was first defined by Kyriacou and Sutcliffe, (1978) and then again by Kyriacou (2001) as the experience of negative emotions resulting from the teacher's occupation. These emotions, which may include frustration, anger, tension and anxiety may be mediated by the perception that occupational demands are a threat to one's coping resources (Kyriacou, 2001). This definition demonstrates

that it is not only the demands of the job itself, but also the perception of the demands that contribute to the experience of teacher stress.

Sources of Stress

The demands placed on teachers are numerous and vary greatly across this population. Teaching is one of the few careers where beginners have the same expectations and responsibilities as more senior workers (Fantilli & McDougall, 2009). Thus, it can be understood that teachers are provided with unique expectations held by no other occupation. Most professions allow workers to leave their tasks at the office. However, teachers are expected to care for their students by providing them emotional support similar to a family, and in addition to meeting their educational objectives. This unique responsibility embedded within the role of a teacher, highlights the unique work-life balance stressors that teachers experience.

Teaching can be a stressful profession, with demands and expectations from parents, students, administrators, and colleagues, which are exacerbated by work overload, changing policies, and a lack of acknowledgment for accomplishments (Klassen, Usher & Bong, 2010). There are several sources of stress that are discussed in occupational health literature. For teachers, the sources of stress can be compartmentalized into work life, personal life, and work-life balance. One's work life as a teacher may include stressors associated with students, leadership team, coworkers, policies, and lack of resources. Leroux and Theoret (2014) outlined the most prominent sources of teacher stress that fall under the category of work life stressors which include: heavy workload, lack of time, resources and support, student behaviour problems, and the special needs of particular students in the classroom. These stressors align with the main sources of teacher stress outlined by Kyriacou (2001) with the addition of the following: low student motivation, large amounts of change, challenging relationships with coworkers and

administration, and poor working conditions. Stressors from a teacher's personal life may incorporate relationship stressors with a spouse or partner, relationship stressors with children, caring for children, caring for other family members, and financial difficulties (Leroux & Theoret, 2014). Lastly, stressors from the domain of work-life balance occur when one's obligations from work overlap with one's personal life and become a source of stress (Leroux & Theoret, 2014). For example, the marking that a teacher has to do in their personal time at home may conflict with their other personal obligations.

The Effects of Teacher Stress

Stress is particularly important with respect to teachers because it has been shown to lead to adverse physical, emotional, and behavioral consequences, in addition to adverse effects on students and the teaching profession at large. These consequences include reduced self-efficacy, poorer teacher-student relationships, burnout and higher rates of teacher absenteeism and turnover (Klassen & Chiu, 2010; Kyriacou, 2001). Teachers who experience stress are prevented from reaching their potential as educators or effectively carrying out their responsibilities (Yong & Yue, 2008). Teacher stress also affects the atmosphere of the school, has been shown to reduce morale, thwart the attainment of educational goals, and lead to an increase in the probability of teachers quitting (Yong & Yue, 2008). Prolonged occupational stress can lead to several adverse consequences such as burnout (Fives, Hamman, & Olivarez, 2007) or even the decision to leave the profession (Leroux & Theoret, 2014). Teaching performance, physical and mental health, career decisions and job satisfaction have been noted as effects that arise from the teaching profession (Jepson & Forrest, 2006).

Stress has different effects on the individual, compared to the organization (Yong & Yue, 2008). For an individual, stress affects teachers' attitudes and emotions whereby their habits are

disrupted, their enthusiasm and creativity is stifled, their self-esteem and self-control are diminished, and they overreact to moderate amounts of stress (Yong & Yue, 2008). Alternatively, stress has implications on the organizational level of the school (Yong & Yue, 2008). For the organization, stress leads to inefficiency, decreased quality of education for students, loss of morale and interest in teaching and life, and indifference toward coworkers and the organization (Yong & Yue, 2008). Klassen, Usher and Bong (2010) noted that teachers' work-related stress might lead to burnout, depression, reduced performance, absenteeism, decreased job satisfaction, and possibly, the decision to leave teaching. Teacher stress also has effects on the students themselves, whereby students' education may suffer due to reduced teacher effectiveness and the diminished rapport and relationship between the teacher and student (Klassen & Chiu, 2010).

The Yerkes Dodson Law

The Yerkes Dodson Law (Yerkes & Dodson, 1908), which provides foundations for the framework of stress promoted by the Harvard University Center for the Developing Child (2014), describes the effects of stress as falling on an inverted U-shaped distribution. Stress is helpful for performance in moderation, but at a certain point individuals' reactions to stress become maladaptive to health and impairs ability to function optimally. The Harvard University Center on the Developing Child (2014) identified three different types of stress: positive stress, tolerable stress, and toxic stress. Positive stress is a low level stressor that can be helpful to individuals. For example, this would include low levels of stress to motivate an individual to study for a test, or stress to motivate a teacher to complete their marking of a students' assignments. The second type of stress is tolerable stress, defined as a moderate level of stress that requires an individual to utilize coping skills and resources. An example of tolerable stress

would include a teacher's grief after the loss of a colleague. This example of stress can feel overwhelming, so the teacher may be challenged to use their coping skills and resources, such as supportive relationships, to deal with the stressor. The last form of stress is toxic stress. Toxic stress occurs when the body's physiological stress response, indicated by cortisol secretion and activation of the HPA axis, is continuously activated. Sustained activation of the body's stress response is maladaptive because it can lead to long-term repercussions for health, behavior, and learning (The Harvard University Center on the Developing Child, 2014). An example of toxic stress would include continuous neglect or exposure to violence in the home as a young child. In the context of teaching, lack of resources and support, or continuous student behavioral problems may lead to extreme feelings of stress that may result in burnout.

Toxic stress may lead an individual to disconnect from their support networks, which, according to Relational Cultural Theory, are integral to sustaining positive well-being and QOL. Furthermore, if one does not feel embedded within their work culture, that individual might experience disconnection from other staff members who might have been able to provide support (Sculetheiss, 2007). The limited ethnic diversity within the Canadian teaching profession (Ryan, Pollock & Antonelli, 2007) might contribute to minority teachers' feeling disconnected from the work social culture. This disconnection from co-workers might exacerbate any stressors arising from one's home life, the job itself, or work-life balance stressors, and contribute to decreased QOL.

QOL and Teacher Stress

It is pertinent that the sources of stress and QOL of teachers be explored because of the burden of mental health to the Canadian economy and the detrimental effects of teacher mental health on their students. These are two of the most salient effects that support the need for

research focusing on the experience of teachers, whose unique profession leads to the impact to extend beyond their own mental health. From an economic perspective, mental health problems and illnesses lead to $50 billion per year in costs to the Canadian economy (Mental Health Commission of Canada, 2013). Recent research by Oberle and Schonert-Reichl (2016) demonstrates a link between elevated cortisol levels among grade four students in British Columbia and high levels of self-reported burnout among teachers.

It is important to have teachers who are mentally healthy because the burden of stress may lead to increased costs associated with absenteeism. The Mental Health Commission of Canada (2013) reported that amongst the Canadian working population, 21.4% experience mental illness or mental health problems, which account for 30% of disability claims. Thus, mental wellbeing can be understood as an important contributor to occupational productivity. Furthermore, stress may lead to increased turnover due to teachers leaving the profession, which results in increased time and resources being spent on helping new teachers to adjust. Across the working population in France, increased stress as a result of one's occupation has been shown to lead to increased use of health care and mental health care resources (Béjean & Sultan-taïeb 2005).

Teachers stress levels and QOL do not only have implications for their own health, but for their students as well, because they are connected to the education of their students, school satisfaction and student academic performance may be impacted. A study by Arens and Morin (2016) found a correlation between teachers' emotional exhaustion and students' educational outcomes as measured by school grades, standardized test scores, school satisfaction and perception of teacher support. Additionally, a statistically significant positive correlation was demonstrated between SAT scores and teacher wellbeing (Briner & Dewberry, 2007). Thus,

improving the overall QOL and stress levels of teachers is of critical concern because of its links to both teacher health and student success. Thus, it is important to have healthy teachers from a student perspective because of the demonstrated relationship between teachers and their student's success. Teachers occupy the unique responsibility of holding three distinct positions as role models, caregivers and educators. Teachers interact with their students in each of these three roles. If teachers are dealing with their own stressors it is obvious that their attention to the needs and of their students and capacity to support their own stress will be limited. The trend of a high turnover rate for teachers may also be detrimental to their student's education because students will not be exposed to teachers with a wealth of experience. This is unfortunate given that experience in any profession helps to build confidence and develop enhanced skills set in a professional role.

The preceding evidence demonstrates that teachers experience stress which can have widespread consequences for several areas contributing to personal QOL. Recent research on QOL for teachers in China has reported an existing connection between shorter life expectancy and lower QOL for teachers in comparison to the general population in China, a finding that has been attributed to their increased occupational stress (Yang et al., 2009). The aforementioned research discussed how QOL is an umbrella term that encompasses all aspects of well-being, including one's occupation. Research has established that high stress jobs lead to reduced QOL (Horowitz, Blackburn, Edington, & Kloss, 1988). Clearly, greater efforts must be allocated to investigating teacher stress and QOL with the intention of improving teacher mental health through targeted and evidence-based intervention.

Gap in the Literature

There is a gap in the literature surrounding QOL and sources of stress stemming from (1) a lack of research focusing on the mental health of teachers, and (2) a lack of Canadian focused research. The focus of current research in the field of school based mental health is weighted heavily on students. The reasons for this focus in the literature on children and youth rather than teachers, may be a result of the increasing trend in viewing childhood as the optimal time for prevention, and the consideration that children and youth are a vulnerable population. This scarcity of research focused on teachers compared to the wealth of research focused on students, illustrates a gap in the literature. Moreover, occupational health literature has focused predominantly on other helping professions, namely social work (Hurd, 1999) and nursing (Hamaideh, 2011). Therefore, it is imperative to explore the unique experience of teachers because of their effect on the well-being of their students and the quality of education that teachers provide for their students.

A dearth of research currently exists that examines QOL and the sources of stress in teachers. The few examples of research that exist on these topics have been investigated in certain countries e.g., China (Yang et. al., 2009). There is a gap in the literature regarding the unique experience of Canadian teachers, which is particularly important given the unique systemic differences that exist in school and health systems between the two countries. For example, different countries and cultures have systemic differences with respect to who attends public versus private school. Furthermore, differences exist with respect to how research is conducted and who participates in research within the school administration. Lastly, differences in expectations, teaching methods, and focus of curriculum, exist in each country and culture. The differences in school systems around the world lead to different experiences in QOL and

differences in sources of stress depending on one's culture and country of origin. Thus, previous international research may not be generalizable to Canadian teachers.

Research Questions and Hypotheses

The present study addressed this gap in the literature by examining the experience of teachers' QOL, and the relationship between QOL and the source (home life, work-life, or work-life balance) of stress for Canadian teachers.

The aims of the current study were to explore the following research questions:

1. Exploration: What is the QOL of teachers?
2. What is the association between the general health and psychological health aspects of QOL, and source of stress in teachers?

It was hypothesized that as work-life balance stress increases, general health QOL would decrease. Moreover, it was hypothesized that as stress from one's personal life increases, psychological health QOL would decrease.

Method

Participants

The present investigation is a secondary data analysis of a study that was conducted in 2014. The original study was a comprehensive online survey examining mental health and well-being that was administered to elementary and secondary school teachers across Canada (*N*=600). To be included in the study, participants had to be involved in education. Recruitment via email and newsletters occurred through national teacher's associations, teacher federations, and informal networks. These groups represent teachers, occasional teachers, educational support workers, school counselors, school psychologists, social workers, and guidance counselors. The

present study operationally defined teachers as any of the aforementioned professions within these roles.

Participants in the original study ranged in age from 20 to 70 years (M = 43.41, SD = 9.345). The number of teaching years ranged from 0 to 43 years (M = 15.52, SD = 8.115). Thus, on average, participants were older and more experienced teachers. The self-identified gender of the participants was as follows: 69.5% female, 26.8% male, and 1.2% transgender. Participants were also asked to identify their community of origin within Canada. The percentages of participants in each type of community were as follows: 36.5% urban, 26.5% rural, and 3.3% remote. Levels of education taught by participants included: primary (9.8%), junior (6.3%), intermediate (44%), senior (67.8%), alternative (9%), and other (13.3%). Thus, the majority of participants taught intermediate and senior levels of education.

The present study does not include male nor transgender participants in the analyses based on a visual inspection of the data which determined that few people identified as transgendered, and the interest in the experience of women only. The high proportion of females in the present study is reflective of the demographics represented in the Canadian teaching profession mentioned previously.

In addition, the present analyses focussed on participants who self-identified as full time teachers. Consequently, part time teachers, full time and part time occasional teachers, and full time and part time support staff were excluded from the present analyses. Full time teachers were chosen as the participants of focus due to their unique quality of life and stressors associated with teaching everyday full time, with job security. A total of 416 females completed the original study, of which 227 were full-time teachers. Consequently, the present thesis will focus on these

227 female full-time teachers to better understand their unique experience with respect to both QOL and SOS.

Procedure

A recruitment email (see Appendix A) along with the link to the survey was sent to both the National Teacher Professional Association (Association) and a provincial teachers' federation (Federation). The Association sent the information from the recruitment email and link to the survey in their electronic monthly newsletter to their email subscription list. The Federation posted the information from the recruitment email and link to the survey on their web page. The survey was available online from December 9, 2014 to January 22, 2015. The survey was administered through Qualtrics, a secure and private online survey provider. An information letter and consent form (see Appendix B and C) was provided to individuals who entered the website. Individuals were invited to click consent if they wanted to proceed with participating in the study. Participants could complete the online survey on any computing device or smart phone, at their own pace, with no time limitations. Questionnaires took on average 15-25 minutes to complete all nine inventories (eight inventories and one demographic section). To support participants in seeking help after the study for any personal issues that may have arisen, names and contact information of mental health resources across Canada were provided.

Measures

The original survey from which the data of the present study was collected, consisted of eight inventories related to teacher mental health and well-being and a demographic section (see Appendix D). The analyses from the present study utilized correlational data obtained from two of these eight inventories, and information obtained from the demographic section from the original study. Specifically, the present study used the World Health Organization Quality of

Life Scale - BREF (WHOQOL Group, 1998) to measure QOL as an outcome variable. Furthermore, the Sources of Stress Inventory, created for the purposes of the original study, was used to measure sources of stress as an outcome variable.

WHO Quality of Life Scale – (WHOQOL-BREF). The World Health Organization Quality of Life Scale – BREF (WHOQOL-BREF; WHOQOL Group, 1998) consists of 26 items and is divided into five subscales: general health, physical health, psychological well-being, social relationships, and environments where higher scores indicate higher QOL. This inventory has excellent psychometric properties and consists of a 5-point Likert scale from 1 (not at all) to 5 (completely). Raw scores from the WHOQOL-BREF (WHOQOL Group, 1998) was converted to a standardized 100-point scale. Higher scores on the WHOQOL– BREF indicate more satisfaction with one's QOL. A sample item from the scale is "how would you rate your health" (see Appendix E). The WHOQOL-BREF was created as a short version of the WHOQOL-100. Garcia-Rea and LePage (2010) have noted that the brief version has demonstrated agreement with the full scale by selecting one item from each of the 24 facets of QOL and two global items. The correlation between the two versions of the scale has been shown to be approximately .9 (Garcia-Rae & LePage, 2010). Adequate internal consistency for each domain of the WHOQOL– BREF was reported by Garcia-Rea and LePage (2010): Physical (**α** =.78), Psychological (**α** =.78), Social (**α** =.75), and Environmental (**α** =.73).

Sources of Stress Inventory. Published measures of sources of teacher stress currently do not exist in the literature. The Sources of Stress Inventory was created for the purposes of the original study by the researchers based on a comprehensive literature review regarding stress in adults, workplace stress, and stress specific to teachers. Recurring and notable concepts and issues noted in the literature were then incorporated into the inventory. Included within the inventory are the following sources of stress: personal, work, and work-life balance. This inventory consists of a 5-point Likert scale ranging from 1(never) to 5(always). Higher scores on the Sources of Stress Inventory indicate a greater amount of stress the individual perceives that a certain item is contributing to their lives. Participants were asked to fill in a numerical value that best represents the amount of stress that that area of life occupies. A sample item from the Sources of Stress Inventory is "my life overall ____" and "my students____" (see Appendix F). The reliability of the scale was strong as evidenced by Cronbach's alpha score ($\boldsymbol{\alpha}$ = .94).

Protection of Human Rights

The present study received ethical approval from the university ethics board (see Appendix G). Participants completed the study in the comfort of their own home, and they could exit their web browser at any point to end the study if they felt uncomfortable. Personal identifying information was not collected from participants in the original study in an effort to maintain anonymity and confidentiality. Data was stored securely with the use of password-protected computer software. Data was only accessible to the primary researchers.

Results

The goal of the present study was to ascertain what the QOL of Canadian teachers looks like, if there were any correlations in QOL and where teacher stress is sourced from. To assess the research questions analyses were conducted which involved computing descriptive statistics, bi-variate correlations and multiple regression analyses.

Demographic Analyses

Overall, the sample of 227 female full time teachers in the present analyses were predominantly middle aged and experienced educators (see Table 1). The experience/length of service of the sample is representative of the "survivors" who have persisted in the teaching field. Furthermore, the great majority of participants were mothers and/or caregivers whose daily demands and stressors extend beyond the scope of their classroom (see Table 1). Out of the total sample 74.8% of participants identified as being either married or common law, and the remaining 25.2% identified as either divorced, separated, single, or widowed. The percentage of married (married and common law) to single participants (74.8%) in the present study is notably higher than the percentage of married and common law females evident amongst the general population in Canada (46.8%) (Statistics Canada – Table 051-0042, 2016). Furthermore, the mean age depicted in the present study (M = 43.33 years) approximates Canadian standard for female full time educators which indicate that 31.3% of Canadian female full time educators occupy the 40 – 49-year-old age bracket (Statistics Canada – Table 477-0109, 2016).

Research Question 1: What is the QOL of teachers?

Descriptive statistics were computed to investigate the first research question and found that the mean for general health QOL was 67.33 (out of a possible 100 points; transformed scores), followed by environmental health 67.07, physical health 62.79, psychological health 58.88, and social health 54.04 (see Table 2). Visual inspection indicated that these mean scores are lower than those reported in the technical reports (WHOQOL-BREF, 1997). Additional research involving non-clinical adult sample reports WHOQOL-BREF means that can be used for comparison (Skevington & McCrate 2012). Skevington & McCrate (2012) reported QOL mean scores of a "well" population (n = 141) that included physical health (75.41, *SD* = 18.72), psychological health (70.21, *SD* = 15.84), social health (71.37, *SD* = 19.82) and environmental health (72.26, *SD* = 14.78). Calculations indicate the present sample had significantly lower physical health (t_{comp} =26.29, t_{crit} = 2.58) , psychological health (t_{comp} =24.19, t_{crit} = 2.58), social health (t_{comp} =33.32, t_{crit} = 2.58) and environmental health (t_{comp} =12.07, t_{crit} = 2.58) when compared to the 'well' population in the Skevington and McCrate study.

Mean scores from student nurses (n=663), whose profession is distinct from teaching but holds similarities with teaching, were also reported by Skevington & McCrate (2012). The mean WHOQOL-BREF scores for student nurses were noted as follows: physical health (78.12, *SD* = 15.47), psychological health (68.84, *SD* = 15.78), social health (72.27, *SD* = 20.80), and environmental health (68.60, *SD* = 14.06). Comparison of the present data with those reported by Skevington and McCrate indicates the present sample was significantly lower in all areas, (physical health, t_{comp} =29.51; psychological health t_{comp} = 28.46; social health t_{comp} =45.57; and environmental health, t_{comp} = 4.78; t_{crit} = 2.58). These two sets of means from non-clinical samples with large sample sizes were compared with the mean WHOQOL-BREF scores found in

the present study using t-test analyses (physical health QOL $F(1,191) = 26.29$, $p<.05$; psychological health QOL $F(1,191) = 24.19$, $p<.05$; social health QOL $F(1,191) = 33.32$, $p<.05$; environmental health QOL $F(1,191) = 12.07$, $p<.05$.) and demonstrate significantly lower QOL in all areas for Canadian teachers.

Research Question 2: What is the association between QOL and source of stress in teachers?

Pearson's bivariate correlations were computed to assess the relationship between the three sources of stress (based on scores of question 1, 2 and 3, please see Appendix F) and the five areas of QOL (see Table 3). A significant positive correlation was demonstrated between general health QOL and all other scales of QOL, which demonstrates that all aspects of QOL are related despite the general health scale being a separate scale (and not a composite).

Age was found to be significantly correlated with number of years teaching ($r = .767$, $p < .05$), psychological health QOL ($r = .225$, $p < .05$), and social health QOL ($r = .159$, $p < .05$). This means that as age increases, they are more likely to have taught longer, and their psychological and social health scores are higher. Age was also found to be negatively correlated with work-life balance stress ($r = -.239$, $p < .05$). This may be interpreted to mean that as age increases, the stress from work-life balance decreases.

The results of the present study also found each of the three sources of stress (personal life stress, work life stress, and work-life balance stress) to have a significant positive correlation with each other. This is not surprising given the relationship between each of these domains and how stress can often overflow from one domain into the other.

To further investigate the relationships between stress and QOL, two multiple regression analyses were computed, the first with General Health QOL as the dependent variable using the

Enter method, and the second with Psychological Health QOL as the dependent variable using the Stepwise method. In both equations, the independent variables were the three sources of stress. With a sample size of 227 female full time teachers, personal life stress emerged as the single significant predictor of general health QOL (see Table 5*)*. The relationship between general health QOL and work life stress, and work-life balance stress was not statistically significant at the 0.05 level (see Table 4). Therefore, the first regression analysis demonstrated that personal life stress accounted for a significant proportion of the variance in general health QOL scores, but neither work life stress nor work-life balance stress scores were significant predictors.

The second regression analysis found a significant relationship between psychological health QOL and both personal life stress and work-life stress scores at the 0.05 level (see Table 5). These findings demonstrate that psychological health QOL can predict work-life stress and personal-life stress scores with statistical significance (see Table 5). Consequently, all original hypotheses were supported by the present findings. General health QOL was chosen as an outcome variable because it comprehensively assesses the global aspects of QOL and was shown in previous correlational analyses to be significantly correlated to all other domains of QOL (see Table 3). Psychological health QOL was chosen as an outcome variable based on the inherent focus of the present study on examining the mental health of teachers.

Table 1

Descriptive Statistics

Variable	N	Range	Minimum	Maximum	Mean	Std. Deviation	Frequency	Valid Percent
Age	219	43	27	70	43.33	8.63		
Number of years teaching	226	35	1	36	15.88	7.51		
Number of different schools taught in	225	9	1	10	3.35	2.00		
Marital Status	226						Married: 169	74.8
							Single: 57	25.2
Children	227						Yes: 154	67.8
							No: 73	32.2
Currently caring for ageing parents or adult siblings	219						Yes: 55	24.2
							No: 164	72.2
Volunteer work at school	216						Yes: 180	83.3
							No: 36	16.7
Volunteer work outside of school	217						Yes: 97	44.7
							No: 120	55.3

*General Health QOL is a scale made up of two items, it is not a cumulative scale of physical, psychological, social, and environmental sub scales.
*In the variable "marital status" married included individuals who identified as married and common law, whereas single included individuals who identified as divorced, separated, single or widowed.

Table 2

Descriptive Statistics for QOL scales and Source of Stress Inventory Items

		N	Range	Minimum	Maximum	Mean	Std. Deviation
General Health QOL		194	100	0	100	67.33	20.68
Physical Health QOL		189	89.29	7.14	96.43	62.79	18.57
Psychological Health QOL		190	87.5	12.5	100	58.88	18.37
Social Health QOL		190	100	0	100	54.04	24.54
Environmental Health QOL		190	84.37	15.63	100	67.07	15.42
My work life overall		172	3	2	5	3.59	.904
	My Students	188	4	1	5	3.07	.956
	My leadership team	187	4	1	5	3.10	1.098
	My co-workers	189	4	1	5	2.53	.914
	Policies	186	4	1	5	3.59	1.098
	Lack of resources	187	4	1	5	3.37	1.164
My Personal Life overall		104	4	1	5	2.69	.893
	My relationship with my spouse or partner	175	4	1	5	2.47	.976
	My relationship with my children	161	4	1	5	2.09	.925
	Caring for children	163	4	1	5	2.27	1.128
	Caring for other family members	172	4	1	5	2.19	1.043
	Financial difficulties	181	4	1	5	2.43	1.156
Work-Life Balance		76	4	1	5	3.38	1.143
Valid N		58					

Table 3

Correlations between different sources of stress and different areas of QOL

	General Health QOL	Physical Health QOL	Psychological Health QOL	Social Health QOL	Environmental Health QOL	Work-Life Stress	Personal-Life Stress	Work-Life-Balance Stress
General Health QOL	1							
Physical Health QOL	.666	1						
Psychological Health QOL	.670	.616	1					
Social Health QOL	.519	.392	.571	1				
Environmental Health QOL	.621	.606	.659	.462	1			
Work-Life Stress	-.381	-.380	-.456	-.277	-.352	1		
Personal-Life Stress	-.388	-.286	-.330	-.492	-.345	.315	1	
Work-Life-Balance Stress	-.325	-.317	-.342	-.280	-.459	.522	.351	1

Table 4

Regression 1 (Dependent Variable: General Health QOL, Enter)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig F Change
1	.506	.256	.222	1.31318	.256	7.52	3	66	.000

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 Constant	10.489	.733		14.307	.000
Work-Life Stress	-.236	.209	-.139	-1.129	.263
Personal-Life Stress	-.676	.198	-.392	-3.423	.001
Work-Life-Balance Stress	-.130	.165	-.100	-.791	.432

Table 5

Regression 2 (Dependent Variable: Psychological Health QOL, Stepwise)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig F Change
1	.452	.204	.200	16.065	.204	47.118	1	184	.000
2	.557	.310	.303	14.986	.106	28.230	1	183	.000

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 Constant	90.901	4.261	-4.52	21.334	.000
Work-Life Overall	-8.557	1.247	-.452	-6.864	.000
2 Constant	11.996	4.407		22.915	.000
Work-Life-Overall	-6.644	1.218	-.351	-5.455	.000
Personal-Life Stress	-6.623	1.247	-.341	-5.313	.000

Discussion

The current study explored teacher wellness, because it is important for at least two reasons, namely the economic burden of mental illness in Canada, and the effects on student wellbeing and success Scale scores were computed to investigate the first research question that explored the Quality of Life (QOL) of Canadian teachers, and bivariate correlations were computed to assess the relationship between the three sources of stress (work life stress, personal life stress, and work-life balance stress) and the five areas of QOL. Following this, two multiple regression analyses were computed to assess the second research question regarding the association between QOL and source of stress in teachers. The first regression analysis was computed with general health QOL as the dependent variable, and the second regression analysis was computed with psychological health QOL as the dependent variable.

Descriptive Analyses

To better understand the population of this sample of teachers, Pearson's bivariate correlation analyses were computed between the variables age, number of years teaching, psychological health and social health. Age was found to have a significant positive correlation with number of years teaching ($r = .767$, $p < .05$), psychological health QOL ($r = .225$, $p < .05$), and social health QOL ($r = .159$, $p < .05$). The demonstrated relationship between age and number of years teaching may be a result of increased resiliency as one ages and becomes more accepting and better able to handle the demands of their profession. This means that as age increases, teachers are more likely to have taught longer, and have higher psychological and social health scores. Age was also found to be negatively correlated with work-life balance stress ($r = -.239$, $p < .05$). This may be interpreted to mean that as age increases, the stress from work-life balance decreases. These results are of importance because it provides support for the

'survivor' explanation which posits that teachers become more resilient to stressors associated with the profession as they get older and gain more experience in the field, or that those with lower levels of resilience have quit the profession and so are not included in the sample.

Research Question 1: What is the quality of life of teachers?

Attaining and maintaining an acceptable QOL relates to physical, emotional and relational health (Skevington & McCrate, 2012). The importance of this for teachers is highlighted by research that demonstrates both the connection between teacher wellness and student outcomes (e.g. Arens & Morin, 2016; Oberle & Schonert-Reichl, 2016) and the burden of mental illness on the Canadian and Ontario economies (Dimoff & Kelloway, 2013).

Descriptive statistics were computed to investigate the first research question and when compared with mean scores in technical reports (WHOQOL-BREF, 1997) and published literature (Skevington & McCrate, 2012) demonstrated that all QOL scale scores were lower in the present study, as compared to previously published community sample literature. This finding is significant because it indicates the distinct lowered QOL scores (physical, psychological, social, and environmental) of Canadian female full time teachers in comparison to published norms. Thus, it may be understood that aspects of their unique experience as females, and their experience as Canadian full-time teachers may contribute to this lowered reporting of QOL.

It is evident from the present findings that female full-time teachers in Canada experience a relatively low QOL when compared to data reported by previous researchers, along with high levels of personal and work-life balance stress. With research demonstrating that women still carry much of the burden of homecare and childcare and elder care responsibilities in the family, it is not surprising that we see these connections. The aforementioned literature reviewed the

importance of examining teachers and their unique professional responsibilities that encompass both curriculum expectations and the responsibility to embody "in loco-parentis". These wide ranging responsibilities in addition to the daily stress of caring for a classroom full of students might contribute to the lowered QOL that teachers experience in comparison to the general population. The present research demonstrating the significantly lower levels of QOL for Canadian teachers in comparison to previously published data further illustrates the consistency between Canadian samples and published literature from around the world which states that teachers have relatively lower QOL.

Research Question 2: What is the association between QOL and source of stress in teachers?

The multiple regression analysis using general health QOL as the dependent variable and the three types of stress as the predictor variables was undertaken to assess the aforementioned research questions. Of the three sources of stress (personal life, work life, and work-life-balance), personal life stress emerged as the single significant predictor of general health QOL. General health QOL was chosen as a predictor variable for analyses because of its ability to represent overall QOL. This finding means that knowing the level of personal stress in a teachers' life allows the prediction, with some accuracy, of an individual's general health QOL.

This finding is important because it points to personal life stress as a significant predictor of general health QOL, which provides evidence of the impact of personal life on the overall wellbeing of Canadian female teachers. This finding contradicts the original hypothesis which predicted that work-life-balance stress would be associated with general health QOL. However, this finding is consistent with previous literature which explains that interpersonal relationships are more central to the self-concepts of women, than men (Josephs, Markus, Tafarodi, 1992). It

can be interpreted that because interpersonal relationships hold more centrality to the self-concepts of females, it is consistent that the present study found that personal life stressors are the single significant predictor of general health QOL (Josephs, Markus & Tafarodi,1992). This underscores the importance of maintaining a fulfilling personal life as a buffer for general health QOL. Consequently, interventions aimed to improve the general health QOL of female teachers should be focused on developing supports to enhance a teacher's personal life. This may include increasing flexibility for teachers who may need to take personal days.

The second regression analysis utilized the Psychological Health component of the QOL scale as the dependent variable because of the inherent interconnection between psychological health and stress as a psychological experience. This multiple regression analysis identified both personal life stress and work-life stress as significant predictors of psychological health QOL. Taken together with correlation analyses results, this may be interpreted thusly: as work life stress and personal life stress increase, psychological health QOL decrease in female full-time teachers. This analysis is important because it demonstrates a relationship that exists between these sources of stress and psychological health QOL that extends previous research on Canadian teacher mental health.

This finding indicates that both work life and personal life are significant components of sustaining an overall psychological wellbeing. This may be maintained through placing value on improving both work-life and personal life stressors for Canadian female full time teachers. These strategies may include increased funding for teachers to seek personal counselling, or increased funding to improve management strategies in the education system.

As mentioned previously, Self-Determination Theory (SDT; Ryan, Kuhl, & Deci, 1997) suggests that competence, relatedness, and autonomy are all needed to fulfill optimal wellbeing

and motivation. The results of the present study demonstrate this concept of wellbeing through the dependent variable of QOL. Competence, relatedness, and autonomy are all vital components of both personal life and work life responsibilities. It can therefore be understood that a lack of these components would lead to personal life stress and work life stress, each of whom were shown to be significant predictors of psychological health QOL.

Limitations

The results obtained from the present study are correlational in nature; thus, no causal conclusions can be made. The exploratory nature of the study aims to explore QOL in teachers, and investigate the relationship between QOL and sources of stress in teachers. The present study lays the foundation for future research aimed at exploring causal relationships within this area of investigation. It is also of note that the results of the present study aim to support the specific gap in the literature pertaining to Canadian teachers. The generalizability of the findings should be limited to these domains.

One limitation of the present study was the use of the Sources of Stress Inventory, which was created for the purposes of the present study and consequently do not have published norms for comparison. The study would also have been supported by additional qualitative data to further complement and add contextual richness to the understanding of the unique experience of Canadian female teachers. Additionally, the study used self-report data to investigate the original research questions. Data collection could have been supplemented by using additional data reported by significant others of participants to strengthen reliability of responses. Specifically, peer report data would have been particularly beneficial in the context of QOL reporting.

The present study may also be limited in its generalizability due to a potential response bias that may have resulted from providing no incentive for participating in the study.

Consequently, the study may have attracted participants who experienced more stressors or decreased QOL who were more motivated to share their experiences. These individuals may have decided to participate and share their experience to make meaning of their distress or contribute to the advancement of additional resources or interventions.

Strengths

The present study is the first of its kind to explore the understudied area of teacher mental health in a specifically Canadian population focusing on the distinct areas of QOL and sources of stress. Given its novelty the present study provides great research value to the field and supports the foundation for future research in this area. The present study was supported by strong quantitative methodologies and utilized the WHOQOL-BREF, a well-established and psychometrically sound measure of QOL. The present study was strengthened by the substantial sample size of 227 participants, which provides strong power ($\beta = 96\%$) to the statistical findings.

Implications for Counselling

All three sources of stress (personal, work, and work-life balance) were examined but only personal and work-life stress were found to be significant predictors for both general health QOL and/or psychological health QOL. The lack of significance found for work-life balance as a predictor for general health or psychological health QOL does not necessarily mean that work-life balance stress is not important. Rather, it is possible that work-life balance stressors only become important once there is an issue with personal stress or work-life stress. This would mean that unless stress from one of the two domains is significant work-life balance is managed, but creating this ‘balance’ depends on the level of stress emerging from personal work related sources. This would involve school wide interventions that might include more flexible work

hours to help teachers who are balancing busy home and work lives. Furthermore, work-life balance stressors may be mitigated by increased accommodations for teachers who need to take leave for elder care or child care. Teachers often must contribute a significant amount of their personal time to lesson planning and preparation for classroom activities. Increased time and resources to support lesson planning during work hours may also mitigate the extra burden of stress that teachers experience in the area of work-life balance. To combat stress specific to work life schools may want to intervene by enhancing the work environment through increased resources, access to mentorship and professional development opportunities, facilitated staff bonding activities, and improved administrative supports. To improve stress from personal life schools may implement the allowance of mental health/personal days or funded personal counselling. It can be understood from the present study that implementing interventions at all three levels will have the strongest benefit to improving all aspects of teacher QOL.

It may be queried as to how feasible these changes to the education system may be given the limited funding allocated towards education and frequent budget cut backs. However, by allocating funds towards the increased quality of life of teachers and the minimization of their stressors improvements may be generalized into reduced rates of absenteeism and burnout in the profession.

Implications for Research

Future research would benefit from the exploration of the experience of male and transgender teachers. Furthermore, the impact of private vs. public school or examining differences in grades taught would be areas of research to explore in future studies. The population examined in the present study depicts the “survivors” in the field. Future studies may want to explore the QOL and sources of stress of novice teachers, or may want to examine the

experience of teachers who left the profession as a result of burnout. It may also be interesting to explore difference in education background (B.Ed. versus M.Ed.) amongst teachers and if that is correlated with levels of stress and QOL.

Summary

The present study explored the experience of Canadian female full-time teachers and their self-reported QOL and sources of stress. Results demonstrated that all QOL scale scores were lower in the present study, as compared to previously published community sample literature. Of the three sources of stress, personal life stress emerged as the single significant predictor of general health QOL, and personal life stress and work-life stress scores were found to be significant predictors of psychological health QOL. The present findings inform future research and direct strategies to improve QOL for Canadian female teachers.

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Appendix A

Recruitment Email VERSION DATE JULY 17, 2014

SUBJECT LINE: An Examination of Teachers' and Education Professionals' Mental Health and Wellness

Susan Rodger and Kirsten Marko, researchers from the Faculty of Education, would like to invite you to participate in a survey about stress, wellness and mental health in the lives of teachers and other education professionals. The aim of the study is to explore these topics and the experience of seeking help, balancing work life and home life, and burnout, among teachers and other education professionals. We hope to, through this project, develop an understanding of the needs, strengths and challenges faced by people who work in the education system.

Below you will find a link to the survey. Attached to this message is a Letter of Information that tells you more about the study, and a list of mental health resources.

Appendix B

Western Education

Project Title: Mental Health Survey

Principal Investigator:
Susan Rodger, Ph.D., Associate Professor, Faculty of Education, Western University

Secondary Investigators:
Kristen Marko, M.A. Student, Faculty of Education, Western University
Sarah Pyne, M.A. Student, Faculty of Education, Western University
Jessica Danilewitz, M.A. Student, Faculty of Education, Western University

Letter of Information

1. **Invitation to Participate**

   You are being invited to participate in this research study on the experiences of stress, burnout and mental health in the lives of education workers. The study is completed entirely online through a secure server.

2. **Purpose of the Letter**

   The purpose of this letter is to provide you with information required for you to make an informed decision regarding participation in this research.

3. **Purpose of this Study**

   The aim of the study is to explore mental health and wellness, stress and the experience of seeking help, balancing work life and home life, and burnout among teachers and education professionals. We hope to, through this project, develop an understanding of the needs, strengths and challenges faced by people who work in the education system.

4. **Inclusion Criteria**

   Individuals who are members of OSSTF/FEESO are encouraged and eligible to participate in this study.

5. **Exclusion Criteria**

   Individuals who are not members of OSSTF/FEEO are not eligible to participate in this study at this time.

6. **Study Procedures**

   If you agree to participate in this study you will be asked to complete a survey that asks questions about stress, mental health, burnout, and your quality of life. The survey is completed electronically. Using the link provided here and in the email to which this letter is attached, you can access the survey. The survey will take about 20 minutes to complete.

7. Possible Risks and Harms

While there are no known risks to participating in this study, you might find that responding to questions about these topics is upsetting. You will also find, attached to the email where you found this letter, a list of mental health resources organized by geographical area and school board, which you may find useful.

8. Possible Benefits

You may not directly benefit from participating in this study but information gathered may provide benefits to society as a whole which include informing researchers, professionals and lay persons around the current struggles teachers are facing and how we might be able to help and support them.

9. Compensation

You will not be compensated for your participation in this research.

10. Voluntary Participation

Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time with no effect on your employment or connections with your professional affiliations.

11. Confidentiality

The information collected will be used for research purposes only, and neither your name nor information which could identify you will be used in any publication or presentation of the study results. Otherwise, all information collected for the study will be kept confidential.

12. Contacts for Further Information

If you have any questions about the conduct of this study or your rights as a research participant you may contact Dr. Susan Rodger 519-852-4175 srodger2@uwo.ca or the Office of Research Ethics, Western University at 519-661-3036 or ethics@uwo.ca

13. Publication

The results of this study are intended for publication. If you choose to complete any of the free response items, we may quote you. Your name will not be used.

14. Consent

By clicking the "I agree" following this letter, you are acknowledging you have read the Letter of Information and are providing your consent to participate.

This letter is yours to keep for future reference.

Appendix C

Consent Form for Mental Health Survey

Introduction

Jessica Danilewitz, a graduate student at the Faculty of Education at the University of Western Ontario, is conducting research into the experiences of stress, and quality of life in education workers.

Purpose of the Study

The aim of the study is to explore mental health and wellness, stress and the experience of seeking help, balancing work life and home life, and burnout among teachers and education professionals. We hope to, through this project, develop an understanding of the needs, strengths and challenges faced by people who work in the education system.

Participation

If you agree to participate in this study you will be asked to complete a survey that asks questions about stress, mental health, burnout, and your quality of life. The survey is completed electronically. Using the link provided here and in the email to which this letter is attached, you can access the survey. The survey will take about 20 minutes to complete.

Confidentiality

The information collected will be used for research purposes only, and neither your name nor information which could identify you will be used in any publication or presentation of the study results. Otherwise, all information collected for the study will be kept confidential.

Risks & Benefits

While there are no known risks to participating in this study, you might find that responding to questions about these topics is upsetting. You will also find, attached to the email where you found this letter, a list of mental health resources organized by geographical area and school board, which you may find useful.

Voluntary Participation

Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time with no effect on your employment or connections with your professional affiliations.

Publication

The results of this study are intended for publication. If you choose to complete any of the free response items, we may quote you. Your name will not be used.

Appendix D

Peering Into The Well: An Exploration of the Mental Health of Educators

1. Demographic Section: Please complete the following items. If you would prefer not to answer any item, just skip it.

1	Gender M F Transgender
2	Level(s) currently teaching :
	Primary Junior Intermediate Senior Alternative other
3	How long have you been teaching (including this year)?
4	How many different schools have you taught in?
5	What is your role in the school? Is this role full time (FT) or Part-time (PT)? Occasional Teacher FT PT Long-term Occasional Teacher FT PT Classroom Teacher FT PT Learning Support Teacher FT PT Guidance Counsellor/School Support Teacher FT PT Chaplain FT PT Psychology staff FT PT Social Worker FT PT Educational Assistant FT PT Child and Youth Worker FT PT Principal Vice-Principal Other (please explain)
6	Please indicate the features of the community where you work: (please check all that apply) Remote Rural Urban <5,000 people 5001-15,000 people 15001 – 50,000) 50,001 – 100,000 100,001 – 200,000 20001-500,000 500,001-1,000,000 Over 1,000,000
7	Relationships: Married Common-law Divorced Separated
8	Do you have children? Yes No

9	If yes, how many children do you have in each of these age groups? ___0-2 ___3-6 ___7-11 ___12-18 ___19-25 ___26 and older
10	Do you currently care for aging parents or adult siblings? Yes No
11	If yes, what type of support do you provide? (please check all that apply) ___ they live with me ___they live on their own and I visit them on a regular basis to check on them ___ they live in a supported care facility. ___ I advocate for their health and well-being needs to with health care providers ___ Other (please explain)
12	Please estimate the number of hours per month you spend caring for your aging parent or sibling.
13	Do you do any volunteer work outside of your school? Y N
14	If yes, please estimate the number of hours per month you spend doing this work.
15	Do you do any volunteer work at your school? Y N
16	If yes, please estimate the number of hours per month you spend doing this work.
	Since becoming a teacher or education professional, have you ever experienced mental health distress that interfered with you ability to engage in the activities of everyday life (such as work, relationships, health-promoting behaviours)? Y N
17	Have you ever received psychotherapy or counselling? Y N
18	If yes, where did you go for help? (check all that apply) Privately paid therapy (psychologist, social worker or counsellor) Family Doctor Clergy member Psychiatrist EAP (Employee Assistance Plan) Mental Health Distress Crisis Line (telephone) Walk in Clinic
19	If you have received psychotherapy or counselling, please briefly describe the reasons why:
20	Was it helpful?
21.	If you have never gone for counselling or psychotherapy, but you wished you could, what prevented you?
	Tick boxes, free response

Appendix E

The World Health Organization Quality of Life Survey Instructions

This questionnaire asks how you feel about your quality of life, health, or other areas of your life. Please answer all the questions. If you are unsure about which response to give to a question, please choose the one that appears most appropriate. This can often be your first response.

Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life in the last two weeks. For example, thinking about the last two weeks, a question might ask:

	(Please circle the number)				
	Not at all	**A little**	**Moderately**	**Mostly**	**Completely**
Do you get the kind of support from others that you need?	**1**	**2**	**3**	**4**	**5**

You should circle the number that best fits how much support you got from others over the last two weeks. So you would circle the number 4 if you got a great deal of support from others.

	(Please circle the number)				
	Not at all	**A little**	**Moderately**	**Mostly**	**Completely**
Do you get the kind of support from others that you need?	**1**	**2**	**3**	**4**	**5**

You would circle number 1 if you did not get any of the support that you needed from others in the last two weeks

Please read each question, assess your feelings, and circle the number on the scale that gives the best answer for you for each question.

	(Please circle the number)				
	Very Poor	**Poor**	**Neither poor nor good**	**Good**	**Very Good**
1. How would you rate your quality of life?	**1**	**2**	**3**	**4**	**5**
2. How satisfied are you with your health?	**1**	**2**	**3**	**4**	**5**

The following questions ask about **how completely** you experience or were able to do certain things in the last two weeks.

	(Please circle the number)				
	Not at all	**A little**	**A moderate amount**	**Very much**	**An extreme amount**
3. To what extent do you feel that physical pain prevents you from doing what you need to do?	**1**	**2**	**3**	**4**	**5**
4. How much do you need any medical treatment to function in your daily life	**1**	**2**	**3**	**4**	**5**
5. How much do you enjoy your life?	**1**	**2**	**3**	**4**	**5**
6. To what extent do you feel your life to be meaningful?	**1**	**2**	**3**	**4**	**5**
7. How well are you able to concentrate?	**1**	**2**	**3**	**4**	**5**
8. How safe do you feel in your daily life?	**1**	**2**	**3**	**4**	**5**
9. How healthy is your physical environment?	**1**	**2**	**3**	**4**	**5**

The following questions ask about **how completely** you experience or were able to do certain things in the last two weeks.

	(Please circle the number)				
	Not at all	**A little**	**Moderately**	**Mostly**	**Completely**
10. Do you have enough energy for everyday life?	**1**	**2**	**3**	**4**	**5**
11. Are you able to accept your bodily appearance?	**1**	**2**	**3**	**4**	**5**
12. Have you enough money to meet your needs?	**1**	**2**	**3**	**4**	**5**
13. How available to you is the information that you need in your day-to-day life?	**1**	**2**	**3**	**4**	**5**
14. To what extent do you have the opportunity for leisure activities?	**1**	**2**	**3**	**4**	**5**
15. How well are you able to get around?	**1**	**2**	**3**	**4**	**5**

The following questions ask you to say how **good** or **satisfied** you have felt about various aspects of your life over the last two weeks.

	(Please circle the number)				
	Very dissatisfied	**Dissatisfied**	**Neither satisfied nor dissatisfied**	**Satisfied**	**Very Satisfied**
16. How satisfied are you with your sleep?	**1**	**2**	**3**	**4**	**5**
17. How satisfied are you with your ability to perform your daily activities?	**1**	**2**	**3**	**4**	**5**
18. How satisfied are you with your capacity for work?	**1**	**2**	**3**	**4**	**5**
19. How satisfied are you with yourself?	**1**	**2**	**3**	**4**	**5**
20. How satisfied are you with your personal relationships?	**1**	**2**	**3**	**4**	**5**
21. How satisfied are you with your sex life?	**1**	**2**	**3**	**4**	**5**

22. How satisfied are you with the support you get from your friends?	**1**	**2**	**3**	**4**	**5**
23. How satisfied are you with the conditions of your living place?	**1**	**2**	**3**	**4**	**5**
24. How satisfied are you with your access to health services?	**1**	**2**	**3**	**4**	**5**
25. How satisfied are you with your mode of transportation?	**1**	**2**	**3**	**4**	**5**

The follow question refers to how often you have felt or experienced certain things in the last two weeks.

	(Please circle the number)				
	Never	**Seldom**	**Quite Often**	**Very Often**	**Always**
26. How often do you have negative feelings, such as blue mood, despair, anxiety, depressions?	**1**	**2**	**3**	**4**	**5**

Appendix F

Sources of Stress: these items attempt to locate the source of stress:

To what extent do the following parts of your life contribute to stress that you may be experiencing?

1 (never) 2(seldom) 3(quite often) 4(very often) 5(always)

1. My work life overall: _____
   My students: _____
   My leadership team: _____
   My coworkers: _____
   Policies: _____
   Lack of resources: _____
   Other (please specify)
   _____: _____

2. My personal life overall: _____
   My relationship with my spouse or partner: _____
   My relationship with my children: _____
   Caring for children: _____
   Caring for other family members: _____
   Financial Difficulties: _____
   Other (please specify)
   _____: _____

3. Work-Life Balance: _____

Appendix G

Western Research

Research Ethics

Western University Non-Medical Research Ethics Board
NMREB Amendment Approval Notice

Principal Investigator: Dr. Susan Rodger
Department & Institution: Education\Faculty of Education,Western University

NMREB File Number: 105571
Study Title: An Examination of Teachers' and Education Professionals' Mental Health and Wellness
Sponsor:

NMREB Revision Approval Date: October 30, 2014
NMREB Expiry Date: February 28, 2015

Documents Approved and/or Received for Information:

Document Name	Comments	Version Date
Instruments	revised questionnaire	2014/10/09

The Western University Non-Medical Science Research Ethics Board (NMREB) has reviewed and approved the amendment to the above named study, as of the NMREB Amendment Approval Date noted above.

NMREB approval for this study remains valid until the NMREB Expiry Date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario.

Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB.

The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

rther Information

Erika Basile ebasile@uwo.ca	Grace Kelly grace.kelly@uwo.ca	Mina Mekhail mmekhail@uwo.ca	Vikki Tran vikki.tran@uwo.ca

This is an official document. Please retain the original in your files.

Western University, Research, Support Services Bldg., Rm. 5150
London, ON, Canada N6A 3K7 t. 519.661.3036 f. 519.850.2466 www.uwo.ca/research/services/ethics

Appendix H

WHOQOL-BREF

June 1997

U.S. Version

University of Washington

Seattle, Washington

United States of America

Emblem...Soul Catcher: a Northwest Coast Indian symbol of physical and mental well-being. Artist: Marvin Oliver

WHOQOL-BREF

About You

Before you begin we would like to ask you to answer a few general questions about yourself by circling the correct answer or by filling in the space provided.

1. What is your gender — Male — Female

2. What is your date of birth? _____ / _____ / _____ (Day / Month / Year)

3. What is the highest education you received?
   None at all
   Elementary School
   High School
   College

4. What is your marital status?
   Single — Separated
   Married — Divorced
   Living as Married — Widowed

5. Are you currently ill? Yes — No

6. If something is wrong with your health, what do you think it is? _____ illness/problem

Instructions

This questionnaire asks how you feel about your quality of life, health, or other areas of your life. Please answer all the questions. If you are unsure about which response to give to a question, please choose the one that appears most appropriate. This can often be your first response.

Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life in the last two weeks. For example, thinking about the last two weeks, a question might ask:

For office use		*(Please circle the number)*				
		Not at all	A little	Moderately	Mostly	Completely
	Do you get the kind of support from others that you need?	**1**	**2**	**3**	**4**	**5**

You should circle the number that best fits how much support you got from others over the last two weeks. So you would circle the number 4 if you got a great deal of support from others. o

For office use		*(Please circle the number)*				
		Not at all	A little	Moderately	Mostly	Completely
	Do you get the kind of support from others that you need?	**1**	**2**	**3**	**④**	**5**

You would circle number 1 if you did not get any of the support that you needed from others in the last two weeks. o

For office use		*(Please circle the number)*				
		Not at all	A little	Moderately	Mostly	Completely
	Do you get the kind of support from others that you need?	**①**	**2**	**3**	**4**	**5**

Please read each question, assess your feelings, and circle the number on the scale that gives the best answer for you for each question.

For office use			*(Please circle the number)*				
			Very poor	Poor	Neither poor nor good	Good	Very Good
G1 / G1.1	1.	How would you rate your quality of life?	**1**	**2**	**3**	**4**	**5**

For office use			*(Please circle the number)*				
			Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
G4 / G2.3	2.	How satisfied are you with your health?	**1**	**2**	**3**	**4**	**5**

The following questions ask about **how much** you have experienced certain things in the last two weeks.

For office use			*(Please circle the number)*				
			Not at all	A little	A moderate amount	Very much	An extreme amount
F1.4 / F1.2.5	3.	To what extent do you feel that physical pain prevents you from doing what you need to do?	**1**	**2**	**3**	**4**	**5**
F11.3 / F13.1.4	4.	How much do you need any medical treatment to function in your daily life?	**1**	**2**	**3**	**4**	**5**
F4.1 / F6.1.2	5.	How much do you enjoy life?	**1**	**2**	**3**	**4**	**5**

For office use			(Please circle the number)				
			Not at all	A little	A moderate amount	Very much	An extreme amount
F24.2 / F29.1.3	6.	To what extent do you feel your life to be meaningful?	**1**	**2**	**3**	**4**	**5**

For office use			(Please circle the number)				
			Not at all	Slightly	A Moderate amount	Very much	Extremely
F5.2 / F7.1.6	7.	How well are you able to concentrate?	**1**	**2**	**3**	**4**	**5**
F16.1 / F20.1.2	8.	How safe do you feel in your daily life?	**1**	**2**	**3**	**4**	**5**
F22.1 / F27.1.2	9.	How healthy is your physical environment?	**1**	**2**	**3**	**4**	**5**

The following questions ask about **how completely** you experience or were able to do certain things in the last two weeks.

For office use			(Please circle the number)				
			Not at all	A little	Moderately	Mostly	Completely
F2.1 / F2.1.1	10.	Do you have enough energy for everyday life?	**1**	**2**	**3**	**4**	**5**
F7.1 / F9.1.2	11.	Are you able to accept your bodily appearance?	**1**	**2**	**3**	**4**	**5**
F18.1 / F23.1.1	12.	Have you enough money to meet your needs?	**1**	**2**	**3**	**4**	**5**

For office use		(Please circle the number)				
		Not at all	A little	Moderately	Mostly	Completely
F20.1 / F25.1.1	13. How available to you is the information that you need in your day-to-day life?	**1**	**2**	**3**	**4**	**5**
F21.1 / F26.1.2	14. To what extent do you have the opportunity for leisure activities?	**1**	**2**	**3**	**4**	**5**

For office use		(Please circle the number)				
		Very poor	Poor	Neither poor nor well	Well	Very well
F9.1 / F11.1.1	15. How well are you able to get around?	**1**	**2**	**3**	**4**	**5**

The following questions ask you to say how **good** or **satisfied** you have felt about various aspects of your life over the last two weeks.

For office use		(Please circle the number)				
		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
F3.3 / F4.2.2	16. How satisfied are you with your sleep?	**1**	**2**	**3**	**4**	**5**
F10.3 / F12.2.3	17. How satisfied are you with your ability to perform your daily living activities?	**1**	**2**	**3**	**4**	**5**
F12.4 / F16.2.1	18. How satisfied are you with your capacity for work?	**1**	**2**	**3**	**4**	**5**

For office use		(Please circle the number)				
		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
F6.4 / F8.2.2	19. How satisfied are you with yourself?	**1**	**2**	**3**	**4**	**5**
F13.3 / F17.2.3	20. How satisfied are you with your personal relationships?	**1**	**2**	**3**	**4**	**5**
F15.3 / F3.2.1	21. How satisfied are you with your sex life?	**1**	**2**	**3**	**4**	**5**
F14.4 / F18.2.5	22. How satisfied are you with the support you get from your friends?	**1**	**2**	**3**	**4**	**5**
F17.3 / F21.2.2	23. How satisfied are you with the conditions of your living place?	**1**	**2**	**3**	**4**	**5**
F19.3 / F24.2.1	24. How satisfied are you with your access to health services?	**1**	**2**	**3**	**4**	**5**
F.23.3 / F28.2.2	25. How satisfied are you with your mode of transportation?	**1**	**2**	**3**	**4**	**5**

The follow question refers to **how often** you have felt or experienced certain things in the last two weeks.

For office use		*(Please circle the number)*				
		Never	Seldom	Quite often	Very often	Always
F8.1 / F10.1.2	26. How often do you have negative feelings, such as blue mood, despair, anxiety, depression?	**1**	**2**	**3**	**4**	**5**

Did someone help you to fill out this form? *(Please circle Yes or No)* Yes No

How long did it take to fill out this form? _____

THANK YOU FOR YOUR HELP

WHOQOL-BREF Scoring

The WHOQOL-Bref, still in field trials, is a subset of 26 items taken from the WHOQOL-100. The same steps for the scoring WHOQOL-100 should be followed to achieve scores for the Bref. Although scoring the Bref is identical to scoring the WHOQOL-100, there are some differences that need to be addressed:

- The WHOQOL-Bref does not have facet scores
- Mean substitutions are recommended for Domain 1 *Physical Health* and Domain 4 *Environment* if no more than one item is coded missing
- Only three items need to be reversed before scoring

The WHOQOL-Bref (Field Trial Version) produces a profile with four domain scores and two individually scored items about an individual's overall perception of quality of life and health. The four domain scores are scaled in a positive direction with higher scores indicating a higher quality of life. Three items of the Bref must be reversed before scoring. They can be seen in Table 9, indicated by the "- (reverse)" denotation in the *Direction of scaling* column.

TABLE 9. Scoring Domains of the WHOQOL-BREF

Domains and questions 236/BREF		Direction of scaling	Raw domain score	Raw item score
Overall Quality of Life and General Health			....(2-10)	
G1.1/B1	How would you rate your quality of life?	+		....(1-5)
G2.3/B2	How satisfied are you with your health?	+		....(1-5)
Domain 1	**Physical Health**		....(7-35)	
F1.2.5/B3	To what extent do you feel that physical pain prevents you from doing what you need to do?	-(reverse)		....(1-5)
F13.1.4/B4	How much do you need any medical treatment to function in your daily life?	-(reverse)		....(1-5)
F2.1.1/B10	Do you have enough energy for everyday life?	+		....(1-5)
F11.1.1/B15	How well are you able to get around?	+		....(1-5)
F4.1.1/B16	How satisfied are you with your sleep	+		....(1-5)
F12.2.3/B17	How satisfied are you with your ability to perform your daily living activities?	+		....(1-5)
F16.2.1/B18	How satisfied are you with your capacity for work?	+		....(1-5)
Domain 2	**Psychological**		....(6-30)	
F6.1.2/B5	How much do you enjoy life?	+		....(1-5)
F29.1.3/B6	To what extent do you feel your life to be meaningful?	+		....(1-5)
F7.1.6/B7	How well are you able to concentrate?	+		....(1-5)
F9.1.2/B11	Are you able to accept your bodily appearance?	+		....(1-5)
F8.2.1/B19	How satisfied are you with yourself?	+		....(1-5)
F10.1.2/B26	How often do you have negative feelings such as blue mood, despair, anxiety, depression?	- (reverse)		....(1-5)
Domain 3	**Social relationships**		....(3-15)	
F17.1.3/B20	How satisfied are you with your personal relationships?	+		....(1-5)
F3.2.1/B21	How satisfied are you with your sex life?	+		....(1-5)
F18.2.5/B22	How satisfied are with the support you get from your friends?	+		....(1-5)

Domains and questions 236/BREF		Direction of scaling	Raw domain score	Raw item score
Domain 4	Environment		....(8-40)	
F20.1.2/B8	How safe do you feel in your daily life?	+		....(1-5)
F27.1.2/B9	How healthy is your physical environment?	+		....(1-5)
F23.1.1/B12	Have you enough money to meet your needs?	+		....(1-5)
F25.1.1/B13	How available to you is the information that you need in your daily-to-day life?	+		....(1-5)
F26.1.2/B14	To what extent do you have the opportunity for leisure activities?	+		....(1-5)
F21.2.2/B23	How satisfied are you with the condition of your living place?	+		....(1-5)
F24.2.1/B24	How satisfied are you with your access to health services?	+		....(1-5)
F28.2.2/B25	How satisfied are you with your transport?	+		....(1-5)

If no more than one item from the *Physical Health* or *Environment* domains has been coded as missing, we recommend that a domain score be calculated by substituting a person-specific average across the completed items in the same scale. For example, if a respondent does not have a value for item B16 *How satisfied are you with your sleep?* in the Physical Health domain, but has answered all of the other items in that domain, then the value for item B16 would be the average of the remaining 6 items. If two or more items are coded missing in these two domains, the domain score should not be calculated, likewise if any items are coded missing in the *Psychological* and *Social Relationships* domains, a domain score for that respondent would not be calculated.

After item recoding and handling of missing data, a raw score is computed by a simple algebraic sum of each item in each of the four domains. Once complete, check the frequencies of each domain to be sure that the scores are within the correct range indicated in Table 9 *Raw domain score* column. The next step is to transform each raw scale score using the formula on page 31. The possible raw score ranges for each domain are as follows: *Physical Health*=28, *Psychological*=24, *Social Relationships*=12, and *Environment*=32.

SCORING EXERCISE AND TEST DATASET FOR THE WHOQOL-BREF INSTRUMENT

The purpose of this scoring exercise is to help WHOQOL-Bref users to evaluate results from each step in the process of calculating the Domain summary scores of the instrument. This exercise was created for SPSS users, but with minor modifications, can be adapted for other computer programs or can be useful for those scoring the survey manually.

A test dataset and SPSS code for scoring the WHOQOL-Bref a computer diskette in this packet. The test dataset, which is called "**WQ_BREF.TXT**" on the diskette, contains data from 64 administrations of the WHOQOL-BREF. The data can be seen in *Appendix F*. The enclosed diskette also provides the user with the SPSS syntax used to:

- import raw data into SPSS format **[WQ_B_DL.SPS]**
- derive the WHOQOL-BREF domain summaries **[WQ_BREF.SPS]**

The SPSS code (called "**WQ_BREF.SPS**") on the diskette begins by labeling all items and checking for out-or-range values. It then recodes the 3 negatively stated items so that a

higher score indicates better health. The 4 domains are then scored, labeled, and transformed to a 0 to 100 scale used to interpret and compare to other validated instrument tools such as the WHOQOL-100. A copy of the SPSS syntax is reproduced in Appendix F.

Table 10 presents statistics for the transformed domains for the WHOQOL-Bref. After scoring the test dataset, the means, standard deviations, and minimum and maximum observed values should agree with those presented in Table 10

TABLE 10. Test Dataset Descriptive Statistics: WHOQOL-BREF

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Physical (TRANSFORMED)	64	32.14	92.86	66.7969	14.5480
Psychological (TRANSFORMED)	64	37.50	95.83	73.5026	13.7165
Social Relations (TRANSFORMED)	64	25.00	100.00	73.1771	17.0891
Environment (TRANSFORMED)	64	28.13	100.00	72.8027	14.1592
Valid N (listwise)	64				

After all necessary items have been recoded, a raw score is calculated for each facet and each domain. Both facets and domains are scored through a simple algebraic summation of each item in that scale. As stated earlier, each question contributes equally to the facet score and each facet contributes equally to the domain score. Since each facet has four items with response values of 1 through 5, the raw score for any facet must have a minimum value of 4 and a maximum value of 20 (see Table 7 on the following pages).

TRANSFORMATION OF SCALE SCORES

The next step involves transforming each raw scale score to a 0-100 scale using the formula shown below:

$$\text{Transformed Scale} = \left[\frac{(\text{Actual raw score} - \text{lowest possible raw score})}{\text{Possible raw score range}}\right] \times 100$$

where "Actual raw score" is the values achieved through summation, "lowest possible raw score" is the lowest possible value that could occur through summation (this value would be 4 for all facets), and "Possible raw score range" is the difference between the maximum possible raw score and the lowest possible raw score (this value would be 16 for all facets: 20 minus 4).

This transformation converts the lowest and highest possible scores to zero and 100, respectively. Scores between these values represent the percentage of the total possible score achieved. The WHOQOL-100 scores from other Centers may not be transformed to the 0-100 scale. The U.S.WHOQOL instruments and scoring programs have used this transformation to provide comparative data for interpretation.

Example: A Facet 1 "Pain and discomfort" raw score of 15 would be transformed as follows:

$$\text{Transformed Scale} = \left[\frac{(15 - 4)}{16}\right] \times 100 = 68.75$$

Curriculum Vitae

Name: Jessica Rose Danilewitz

Post-Secondary Education and Degrees:

Western University
London, Ontario, Canada
M.A. Counselling Psychology
2015 – 2017

Western University
London, Ontario, Canada
B.A. Psychology (Honours)
2010 – 2014

Honours and Awards:

Social Science and Humanities Research Council
Canada Graduate Scholarship Master's Award
2016 – 2017

Western University Entrance Scholarship
2015 – 2016

The Western Scholarship of Distinction
2010

Western University Dean's Honor List
2012, 2013, 2014

Related Work Experience:

Intern

Psychological Services & Learning Skills Services

Western University – Student Development Centre

2016 – 2017