

THE RELATIONSHIP BETWEEN CUMULATIVE ADVERSITIES, EXPOSURE TO
VIOLENCE, GENDER AND MENTAL HEALTH: A STUDY OF THE WORKPLACE IN
GAUTENG PROVINCE, SOUTH AFRICA

MIKATEKO MABUNDA

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GAUTENG PROVINCE, SOUTH AFRICA



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Dissertation (article format) submitted in partial fulfilment of the requirements for the degree
in Masters of Social Science in Research Psychology at the North-West University (Mafikeng
Campus)



Supervisor: Professor E.S. Idemudia

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DEDICATION

This study is dedicated in loving memory to my late parents

Nkanyezi Alson and Ntombizodwa Lydia Mabunda

And

Mihloti Hazel Hetisani Maluleke

ACKNOWLEDGEMENTS

Jehovah you are my shield and comforter. You are the source of my strength and wisdom. You are the best gift my mother ever gave me. I sometimes fail to do your will but you always bless me. Obrigado

- To Prof. E.S. Idemudia thank you for demanding nothing less than perfection. Thank you for listening and caring. May our Almighty grant you more life of great quality. May He expand your territory from the North to the South and from the East to the West. I will always remember to “focus”. Obilu sir.
- To my family, Douglas, Renee, Tsakani, Nyeleti, Mandla and Nyiko. You guys and your families are the best part of me. I thank God for you every day that I breathe. I really could not have done this without your support.
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- To Nyambeni Matamela thank you for always taking my anxiety filled calls
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- To Themba Mdaka. I am so proud to be associated with a person of your calibre. You have a mandate from God to take care of His folk and you are doing exactly that. May He bless your family and increase every aspect of your life.

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- To all the institutions who assisted me with collecting data and providing me with information I thank you.

SUMMARY

Cumulative adversity is a complex subject to study as it involves many facets with vast differences in approach. In an attempt to understand the relationship between cumulative adversities, exposure to violence and mental health in workplace settings in Gauteng Province, the study was anchored on three hypotheses and thereby investigated (1) whether there will be a relationship between cumulative adversities and mental health, (2) whether there will be a relationship between exposure to violence during childhood and poor mental health and (3) whether there will be a significant difference between gender, cumulative adversities, exposure to violence and mental health. The study utilised a questionnaire with three sections-A, B and C. Section A contained demographic items, Section B contained the cumulative adversity scales and the Child Exposure to Domestic Violence scale measuring direct and indirect exposure to violence in childhood and Section C contained the General Health Questionnaire 28 scale measuring mental health with four subscales-somatic complaints, anxiety and insomnia, social dysfunction, and depression. Psychometric properties of the scales used are valid and reliable. Five hundred workers participated in the study using a cross-section design and were randomly selected from three hospitals in Gauteng Province, South Africa. Participants were 18 years or older with age ranging between 18-65 years. Males were 251 (50.2%) and females were 249 (49.8%). Mean age of employees was 33.8 years (SD = 11.0). The first two hypotheses were tested with a hierarchical multiple regression and the third hypothesis with a t-test. Results from the study showed that cumulative adversities (family, childhood, personal) and exposure to violence (direct and indirect witnessing of violence in childhood) jointly and significantly predicted poor mental health of workers in the model, $R^2 = 0.35$, $F(5, 440) = 47.49$, $p < 0.0001$. The variables, family

cumulative adversity, personal cumulative adversity, childhood adversity, indirect exposure to violence and direct exposure to violence explained 59% of the total variance on poor mental health. Of the variables, the main significant predictors of mental health were: personal cumulative adversity ($b = .35$, $t(445) = 7.56$, $p < .01$), indirect exposure to domestic violence ($b = -.123$, $t(445) = -2.18$, $p < .05$) and direct exposure to violence ($b = .37$, $t(445) = 6.25$, $p < .01$). In addition, the Durbin-Watson result (1.58) is less than 2 and therefore shows that the assumption of independent error is met for this model. Results for hypothesis three showed significant main effects for gender on two of the cumulative adversity measurements with males scoring higher in family cumulative adversity, $t(498) = 3.64$, $p < .0001$ and Personal cumulative adversity, $t(498) = 2.37$, $p < .01$. Males had higher mean scores than females on family adversity ($\bar{X} = 4.87$ versus $\bar{X} = 3.73$) and Personal adversity ($\bar{X} = 3.11$ versus $\bar{X} = 2.52$). In addition, there was also a significant main effect for direct exposure to violence, $t(498) = 3.00$, $p < .003$ with males scoring higher than females ($\bar{X} = 16.9$ versus $\bar{X} = 14.5$). There were no significant results for gender, childhood cumulative adversity, indirect exposure to violence and the four subscales of mental health-somatic complaints, anxiety, social dysfunctions and depression. It was noted in conclusion that the study contributed to the body of knowledge by showing that cumulative adversities and child exposure to domestic violence can predict mental health and that men and women react differently on cumulative adversities and exposure to violence in childhood. Workplace programmes which promote positive health can improve the mental wellness of employees; therefore, several preventive recommendations were made in line with the findings of the study.

PREFACE

Article format

For the purpose of this thesis, which is the requirements for the degree of Masters in Research Psychology the article format as described by General Regulation A. 7.5.1.b of the North West University was chosen.

Selected journal

The target journal for submission of the current manuscript is Journal of Social Sciences (JSS). For the purpose of examination tables will be included in the text.

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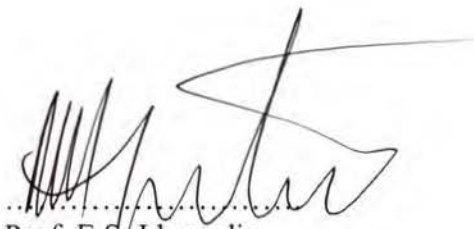
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I, the undersigned, hereby give consent that Mikateko Mabunda may submit the manuscript entitled “THE RELATIONSHIP BETWEEN CUMULATIVE ADVERSITIES, EXPOSURE TO VIOLENCE, GENDER AND MENTAL HEALTH: A STUDY OF THE WORKPLACE IN GAUTENG PROVINCE, SOUTH AFRICA” for the purpose of a thesis in fulfilment for the Masters of Research degree in Psychology



.....
Prof. E.S. Idemudia
Supervisor



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Work "in press": Bhasin Veena 2004. Economic pursuits and strategies of survival among Damor of Rajasthan. *J Hum Ecol*, (in press).

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ABSTRACT

This study investigated (1) whether there will be a relationship between cumulative adversities and the quality of mental health, (2) whether there will be a relationship between exposure to violence during childhood and poor mental health and (3) whether there will be a significant difference between gender, cumulative adversities, and exposure to violence and mental health. Data were collected from five hundred participants that were randomly selected from three different hospitals in Gauteng Province. Age of participants ranged between 18-65 years. Males were 251 (50.2%) and females were 249 (49.8%). Mean age of employees was 33.8 years (SD= 11.03). Results showed that cumulative adversities (Family, childhood, personal) and exposure to violence (direct and indirect witnessing of violence in childhood) jointly and significantly predicted poor mental health of workers. The variables, family cumulative adversity, personal cumulative adversity, indirect exposure and direct exposure explained 59% of the total variance on poor mental health. The Durbin-Watson result (1.58) is less than 2 and therefore shows that the assumption of independent error is met for this model. Results for hypothesis three showed significant main effects for gender on two of the cumulative adversity measurements; family adversity and personal adversity. In addition, there was also a significant main effect for direct exposure to violence. There were no significant results for childhood cumulative adversity, indirect exposure and the four subscales of mental health-somatic complaints, anxiety, social dysfunctions and depression. Workplace programmes which promote positive health can improve the mental wellness of employees; hence several preventive recommendations were made in line with the findings of the study.

Keywords: Cumulative adversities/Gender/Exposure to violence/Mental-health/Workplace/Gauteng Province/South Africa.

Introduction & Statement of problem:

Being psychologically healthy is as important as indeed the working environment and the job itself (Farrell, 2011). The impact of mental health problems in the workplace has serious consequences not only for the individual but also for the productivity of the enterprise (Baumann & Muijen, 2010; World Health Organization, 2010). Mental health can be defined as a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community (<http://www.who.int/mediacentre/factsheets/fs220/en/>). According to Baumann and Muijen (2010), employee performances, rates of illness, absenteeism, accidents and staff turnover are highly affected by employees' mental health status.

The workplace environment demands an overall wellness of an individual to enable them to function to their fullest capacity. Psychological problems may hinder productivity as it would affect optimal functioning. According to Statistics South Africa (2001), a high percentage of all disability is due to "emotional" and intellectual disability. Bradshaw (2003) have described neuro-psychiatric disorders as the second highest proportion of burden of disease after HIVAIDS in Western Cape alone. Unfortunately, understanding mental health in work settings is hardly investigated.

Based on this statement it is then safe to assume that employees who are in optimal physical and psychological health are more likely to come to work and perform well. However, stressors causing poor mental health can be accumulated from childhood and into adulthood. These cumulative adversities (CAs) may have ramifications for mental health in a workplace. Studying the temporal dimension of exposure to violence and cumulative adversity can bring social research closer to understanding the extent of their consequences on mental health.

This will be of benefit for both the organizations and their most valued asset, which is their human resource, the employees.

Cumulative adversity (CA) is defined as exposure to potentially traumatic events along life (Shmotkin & Litwin, 2009). These events have been linked with adulthood mental health problems in several studies such as Lamont (2010), who stated that childhood adversity, such as exposure to child abuse and neglect, can lead to a wide range of adverse consequences that can last a lifetime. Sometimes, the effects remain largely hidden only to emerge at key times in later life (McQueen, Itzin, Kennedy, Sinason, & Maxted, 2009), such as with the demands of the working environment.

It is important to note that cumulative adversity may occur directly to the individual and also through indirect witnessing the adversities of a loved one. Both of these experiences are said to have both immediate and long-term consequences for health and general wellbeing (Olesen, Macdonald, Raphael & Butterworth, 2010). A parent's physical illness, for instance, may be a cause of mental anguish to a child. According to Hayes, Gray, and Edwards (2008) and Saunders, Naidoo, and Griffiths, (2007) this offers an explanation for the common co-occurrence of many of these adversities and children's mental health. Adverse life events or stressors that occur to a child's parent or within their familial context have been connected to health, behavioural and social difficulties during childhood, and poorer outcomes later in life (Olesen, *et al*, 2010).

The adverse consequences caused by parental adversities may stem from the fact that distressed parents may not have the strength to spend quality time with their children. This may lead to difficulties in engaging with the child and nurturing the child's psychological

development, which in turn may render the child vulnerable to more adversity and later life mental challenges. These children are also more likely to experience depression and substance abuse as adults (Pirkola, Isometsa, Aro, Kestila, Hamalainen, Veijola, Kivuruusu, & Lonnqvist, 2005). Parental and familial stressors are consistently linked to poorer developmental, academic and health outcomes during childhood and later adulthood (Olesen, *et al*, 2010).

A study conducted by McLaughlin, Green, Gruber, Sampson, Zaslavsky, and Kessler, (2010), found that exposure to CAs involving maladaptive family functioning, e.g. parental mental illness, substance use disorder, criminality, family violence, physical and sexual abuse, and neglect were significantly associated with persistence of mood and anxiety disorders and that these associations remained statistically significant throughout the life course. According to Afifi, Enns, Cox, Asmundson, Stein, and Sareen (2008) and McLaughlin, *et al.*, (2010) these associations render individuals with a history of CAs especially vulnerable to mental disorders triggered by adult stressors.

Other studies, such as Shmotkin and Litwin's (2009), have reported that cumulative adverse events also have an influence on physical health. Scott, Von Korff, Angermeyer, Benjet, Bruffaerts, de Girolamo, Haro, Lépine, Ormel, Posada-Villa, Tachimori and Kessler, (2011) examined cross-sectional community data in adults from 10 countries. History of childhood adverse experiences was shown to increase risk for all six of the medical disorder groups and adults with experience of three or more adverse childhood experiences were found to have the greatest risk of an adult medical disorder. Cumulative adversity creates a vulnerability to poor mental health which affects physical health. In Scott's *et al.*, (2011) study an early-

onset, before age 21, of an anxiety disorder or depression increased adult medical disorder risk for the six categories presented in the study.

Although cumulative adverse consequences are particularly apparent for mental health problems (Rodgers, Blewitt, Jacomb & Rosenman, 2010), in some instances it might be the severity of adversity that may actually cause poor mental health. Respondents with higher cumulative adversity, in Schilling, Aseltine, and Gore's (2008) research, had disproportionately poorer mental health because of the severity of the adversities they were exposed to, and not the cumulative number of different types of adversities experienced.

According to Seery, Holman, Silver and Cohen (2010), exposure to adverse life events typically predicts subsequent negative effects on mental health and well-being, such that more adversity predicts worse outcomes. These negative life events have been implicated in the development of alcohol dependence (Lloyd & Turner, 2008). Findings from the study suggest that high levels of lifetime exposure to adversity are implicated causally in the onset of alcohol dependence.

Cumulative adversity is a complex subject to study as it involves many facets with vast differences. Firstly most studies use self reported cumulative adversity exposure which varies amongst individuals (Schilling, Aseltine & Gore, 2007). Secondly accuracy is not certain as accuracy involves comparability of measures across countries and some of these studies do not comply (e.g. not much research includes third world countries as in Africa). Thirdly adverse experiences may also foster subsequent resilience, with resulting advantages for mental health and well-being instead of the opposite (Seery, *et al.*, 2010). In a multiyear longitudinal study of a national sample, people with a history of some lifetime adversity

reported better mental health and well-being outcomes than those with lack of adversity history. Cumulative adversity may, in fact, play a preparatory role for future adversity. Individuals with that experience may be able to handle life challenges as they would tell themselves “this too shall pass”. Gender and racial differences also need to be investigated.

Exposure to violence is very prominent in South Africa (RSA). According to a national report by the South African Police Services (2009) indicated that during years 2008/2009, a total of 2 098 229 (approximately 2,1 million) serious crime cases were registered in RSA, with violent crimes being dominant. This is a serious public health concern that compromises the society by affecting people’s behaviour and psychological well-being. Violence is a form of CA that can have negative implications for transitions to adulthood especially since trajectories established during early adulthood have profound implications for the quality of later life as indicated by Piquero, Brame, and Moffitt (2005). This exposure can have significant effects on child development and the formation of intimate relationships throughout childhood and adulthood (Muscari, 2010). Results in a study conducted by Foster and Brooks-Gunn (2011) indicate the pervasive detrimental effects of violence exposure on internalizing (e.g. depressive/anxiety symptoms), externalizing problems (e.g. aggressive behaviours), and social and educational outcomes across childhood and adolescence. Recent research also finds consistent links between community violence exposure and asthma in children, including wheezing among preschoolers (Sternthal, Jun, Earls, & Wright, 2010), showing that not only does it have an impact on mental health but it also has physical health consequences. Exposure in this study is conceptualized as including both direct (i.e., experiencing physical victimization) and indirect exposure (i.e., witnessing others’ victimization).

The impact of exposure to violence on physical health is evidenced in the biomedical researches (e.g. Lanius & Vermetten, 2009) which, increasingly, recognize that childhood events, specifically abuse and emotional trauma, have profound and enduring effects on the neurologulatory systems mediating medical illness as well as on behaviour from childhood into adult life. For an example, Buse (2011) states that fibromyalgia is one of the medical co-morbidities resulting from adverse childhood experiences. Other medical conditions are migraine, chronic pain disorders and an increased risk for cardiovascular events. Poor physical health will subsequently lead to distress causing further poor mental health.

Mental health remains an invisible problem in Africa (Gordon, 2011). Mental health is defined as a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community (<http://www.who.int/mediacentre/factsheets/fs220/en/>). The implication of the above WHO definition is that being mentally healthy does not only mean the absence of mental illness but also the individual's ability to develop and maintain a balance of all aspects of life. According to the WHO (2010) report, mental health includes emotions, cognition, social functioning and coherence. Social functioning involves relations with others and the society which means that an individual's social setting is important to their mental health. Therefore exposure to violence whether at home or in the community from childhood will undoubtedly have a negative effect on the mental health of an individual. These forms of stressors may accumulate into adulthood with consequences for poor mental health and therefore affect productivity in the work place.

The current study is focused on life course events to contextualize exposure to violence and CAs through the transition to adulthood to evaluate the strength of their long-term effects on mental health in adulthood. The aim was to empirically investigate whether cumulative adversities will affect poor mental health. The study also seeks to find out whether if being exposed to violence will also impact mental health and how males and females react to cumulative adversities and exposure to violence. Understanding these factors will help put in place programmes that would help prevent or manage workers wellbeing in a work place and in particular recognize gender difference in work place settings. These programmes will in addition help boost healthcare and therefore reduce government costs on medical expenses. Early diagnosis and treatment of these adversities in the early stages of life will substantially reduce economic and personal costs of these illnesses.

Theoretical background

Chronic childhood adversity has long been theorized to be an aetiological factor in the development of psychopathology (Benjet, Borges, & Medina-Mora, 2010). According to Richards (2011), individuals from violent homes may likely exhibit attitudes and behaviours that reflect their childhood experiences of witnessing domestic violence. These attitudes and behaviours from severe trauma in childhood, including sexual and physical abuse, may persist as a stressor into adulthood. In a work place setting, these externalized behavioural problems may lead to other psychopathological problems that may in turn affect productivity and workplace wellness. And vulnerability to current and future stresses may be heightened by these past traumas.

Social learning theory is one of the most common theories useful in providing an interpretive framework for understanding how exposure to life course events impact people's lives. The

theory suggests that individuals learn behaviours in childhood through observation of parents or guardians, and replicate those behaviours in their own lives (Akers & Sellers, 2009; Bandura, 1973; Lewis & Fremouw, 2001). The implication here is that adults who have been exposed to violence might themselves turn out to be perpetrators breeding broader grounds for further mental health problems emanating from behaviours learned in childhood.

Social Stress theory best explains the direct links of CAs and poor mental health as it stipulates that multiple adverse exposures of perceived stressors arising from a constellation of contextual stressors, chronic strain, and acute stressors contribute to poor mental health outcomes (Rutter, 2005; Thompson, Mazza, Herting, Randell, & Eggert, 2005). For example, in their study of early exposure to violence, domestic violence, attachment representations, and marital adjustment, Godbouta, Dutton, Lussier and Sabourina (2009) found that previous psychological parental victimization was the strongest predictor of anxious attachment, and witnessing psychological domestic violence during childhood was the strongest predictor of avoidant attachment in adulthood. McLaughlin, Green, Gruber, Sampson, Zaslavsky, and Kessler (2010) also showed that CAs are positively and significantly associated with impairment and that they greatly predict disorder-related impairment, highlighting the ongoing clinical significance of CAs throughout the life-course.

The Life Course perspective is another useful way of understanding the relationship between CAs, through looking at the environment, and the subsequent mental health. This view looks at how chronological age, relationships, common life transitions, and social change shape people's lives (therefore mental health) from birth to death (Hutchison, 2007). According to this theoretical model, to understand a person's life, we have to investigate the sequence of

significant events, experiences, and transitions in a person's life from childhood. As stipulated in the literature of the current study, significant occurrence that involves a relatively abrupt change may lead to the emergence of numerous problems later in the life which may produce serious and long-lasting effects on mental health. Hareven (2000) says that an impact on life can occur when a significant occurrence or transition occurs simultaneously with a crisis or is followed by a crisis, when the transition involves family conflict over the needs and wants of individuals and the greater good of the family unit, when the transition is followed by unforeseen negative consequences and lastly when it requires exceptional social adjustments.

While a vast amount of research has provided support for the association of individual childhood adversities with the development of psychopathology in later life, much of the research has focused on specific or a limited number of adversities and/or a specific or limited number of health outcomes. This is mostly due to the underlying theories of the different studies which have driven the types of childhood adversities studied (these generally fall into the categories of family pathology, abuse and neglect, interpersonal loss and socio-economic disadvantage). Complicating the interpretation of research findings is the fact that childhood adversities are highly co-morbid (Benjet et al., 2009) as are psychiatric disorders, thus it is likely that studies of individual adversities and individual disorders may inflate associations or fail to recognize alternative indirect pathways to psychopathology.

Hypotheses

This study anticipates:

1. That there will be a relationship between cumulative adversities and quality of mental health.
2. That there will be a relationship between exposure to violence during childhood and poor mental health.
3. That there will be a significant difference, as a function of gender, between cumulative adversities, exposure to violence and mental health.

Methodology:

Design:

This study is based on a cross-sectional research design within a quantitative research approach. The variables are cumulative adversities (CAs); family cumulative adversity (CAFam), personal adversity cumulative adversity (CAPerAdv), and childhood cumulative adversity (CACHildAdv), exposure to violence (Direct and Indirect) and gender and mental health. A hierarchical multiple regression analyses will be used to test for statistical significance for hypotheses one and two. Using more than one predictor will also make the prediction of our criterion more accurate. The third hypothesis was tested with a student-t-test to check for mean difference between males and females on cumulative adversities and exposure to violence.

Sample and characteristics:

A total of 500 participants, 251 (56.2%) males and 249 (49.8%) females, randomly selected using a table of random numbers of “yes” and “No” from three hospital complexes in Gauteng Province, South Africa. The methodological advantage of this study is that the sample consists of participants randomly selected from various institutions in Gauteng whose

employees are from racially and economically diverse communities. The study utilized a questionnaire with 3 sections-A, B and C. (Appendix A). Section A contained demographic items, Section B contained the CA and CEDV scales and Section C contained the GHQ-28. All participants were 18 years or older. The age of employees ranged between 18-65 years. Males were 251 (56.2%) and females were 249 (49.8%) which is a 100% of sample participation. The mean age of employees was 33.8 years (SD= 11.0).

Instruments and Psychometric properties:

Data was collected using a questionnaire. The first section comprised of demographic attributes and other social variables. The second section comprised the Cumulative Adversity Scale and the Child Exposure to Domestic Violence (CEDV) scale and section C contained the General Health Questionnaire (GHQ- 28) scale.

Cumulative Adversity Scale: (CAS)

Cumulative adversities (CAs) were assessed using single questions to participants on adverse experiences with parents, during childhood and current adulthood. The childhood adversities were adapted from the Childhood Environmental Factors Questionnaire by Pirkola *et al.*, (2005). Fifty one (51) items were initially derived from the literature and from a pilot study of a sample of 20 employees in Gauteng. The questions were in short phrases. The scale was pretested on a sample of 20 employees in a workplace in Gauteng whose ages ranged from 20-49 years.

Responses to the items were coded on a 3-point Binary answers with "Yes", "No" and 'I don't know'. 'Yes' was scored 2, 'I don't know' was scored 1 point and a "No" was scored 0. Items were selected in such a way that, adversities were measured in three subscales:

Family adversities (CAFamadv), childhood adversities (CACHlAdv) and personal adult adversities (CAPERadv). All responses were scored on the basis of the subscales.

Psychometric properties of this scale were determined. Item analysis using the item remainder correlation technique (with Kuder-Richardson formula, K.R.20) revealed 27 internally consistent items with coefficient alpha of 0.91. Split-half reliability of the scale was $r = 0.80$; content validity was used to determine validity of the scale since the 27 items selected were based on responses of piloted respondents and also factor analysed, using the principal component method with Varimax rotation. All 27 items with a minimum factor loading of 0.40 were included in the scale. Face validity was also built into the scale as the items were made of simple, short phrases and very easy to understand. Some of the items were listed by the respondents themselves on areas of adversities.

To establish convergent validity for the CA, the CA scale scores were compared for 20 workers in Gauteng Province with the Life Experiences Survey, designed by Sarason, Johnson and Siegel (1978). The Life Experiences Survey (LES) is a 57-item self-report measure and allows respondents to indicate events they have experienced during the past year. The scale has two parts, one and two. Only section one was used because it is designed for all respondents and contains a list of 47 specific events. The events listed in this section refer to life changes common to individuals in a wide variety of situations. Many of the items were based on existing life stress measures.

Validity Coefficient was $r = 0.39$ and 0.41 , $p, < 0.01$, for CA scale and LES respectively. The correlation between the two scales was moderately low but suggests a convergent validity for both scales.

GHQ-28:

The General Health Questionnaire is a psychological instrument used in measuring psychological well-being or dysfunctions. It comes in three packs GHQ 60, 28 and 12. This study used the GHQ 28. The GHQ 28 is a scale developed by Goldberg and Hillier (1979). It was used as a self-administered screening instrument for current psychiatric disorder in mental health settings and non-psychiatric clinical setting such as primary care or general medical outpatients. In this scale, the respondents are asked to compare their recent psychological state with their usual state. It consists of 28 items comprising four sub-scales. Scale A (questions from 1-7) measures somatic complaints, scale B (questions from 8-14) measures anxiety and insomnia, scale C (questions from 15-21) measures social dysfunction, and scale D (questions from 22-28) measures severe depression. All items have a 4 point scoring system using Likert scoring (0-1-2-3) less than usual, no more than usual, not at all, and much more than usual respectively). Each question has four possible responses. Some of the items are also reversed and so is the scoring. In this study, scoring was done in such a way that the higher the score, the poorer the psychological report of the patient. The higher the score the lower the psychological well-being of the patient (Nagyova, Krol, Szilasiova, Stewart, Van Dijk, & Van den Heuvel, 2000).

A test retest in two weeks for this study demonstrated good reliability (0.90). The GHQ-28 is a widely used instrument and validated for African cultures. Gbolagunte, (1991) carried out a pilot study with 20 people without pathologies, to establish the reliability and validity of the GHQ. Test -retest (in weeks) technique was used. The Pearson product moment correlation was also used to test for consistency. The result showed a positive and relatively high reliability yielding 0.71. Several studies (e.g. Gureje & Obikoya, 1990, Aderibigbe & Gureje, 1992) have been carried out in Ibadan, Oyo State of Nigeria to establish the validity of the

GHQ. For instance it has been validated against the psychiatric Assessment Schedule (P.A.S), the correlation of which was 10.88. It has also been used in South Africa, (Idemudia & Matamela, 2011, Straker, Mendelsohn, Moosa, & Tudin, 1996).

CEDV:

The Child Exposure to Domestic Violence (CEDV) scale was systematically developed using both pre- existing and newly developed items and subsequently subjected to a review and revision by an international panel of experts to establish face validity. The measure was administered concurrently with the “Things I’ve Seen and Heard” measure of violence exposure to establish convergent validity and again one week later to establish test reliability (Edleson, Shin, Katy, & Armendariz, 2008). The CEDV consists of 42 questions in three sections. The first section includes a series of questions that specifically target the types of exposure to domestic violence experienced. There is a rating of 10 different items focused on types of adult domestic violence. Each question was answered using a three-point Likert-type scale with their choices being “Never”, “Sometimes”, and “A lot”. For the purposes of this study the second part of this first section required that a respondent indicate how he or she came to know of the violence occurring at home during their childhood. If they responded “Never” to a particular question he or she moved onto the next question. However, if she or he indicated exposure to such violence, the responded was led by an arrow to an additional set of options that asked how the he or she was exposed, including five choices: “I saw the outcome (like someone was hurt, something was broken, or the police came)”, “I heard about it afterwards”, “I heard it while it was happening”, “I saw it from far away while it was happening” and “I saw it and was near while it was happening”.

The second section of the CEDV asks a series of 23 questions using the same three-point Likert-type scale. These questions ask the rate of how often the respondent, as a child,

intervened in violent events and about other risk factors present in her or his life. The third and final section of the CEDV consists of nine questions asked to gather demographic information, including gender, age, race and ethnicity, current living situation, and family composition. According to Edleson, *et al.*, (2008) the CEDV is a valid and reliable measure of the level of exposure to domestic violence from a child's perspective. In this study it enables understanding of how childhood cumulative adversity influences adulthood mental health. It has been shown in their study to be both a reliable measure and one that reflects face, content and convergent validity. It is very comprehensive, touching on everything from specific forms of community violence victimization and exposure, to the witness of war and other trauma.

Procedure:

After an ethical approval from the university and all the institutions where data were collected, days of visits were communicated to the institutions concerned for data collection. On these dates, the researcher met with employees who were randomly sampled using a table of random numbers of “yes” and “No”. All the participants who picked yes and after an informed consent were then provided with information concerning the aim, objectives, and methods of the study in a simplified (grade 4) language. Participation in the study was voluntary. They were told they could leave if they felt they didn't want to participate again without fear of being harassed. They were assured of the confidential nature of the study and as such were told not to write their names or provide any contact information such as residential addresses or place of work that would identify them therefore eliminating identification bias. The questionnaires were administered in convenient places for participants such as their own offices, relaxation areas in the surrounding of the workplace. Some participants took the questionnaire home and submitted it after completing it. Caring

for data during and after analyses was discussed with participants. Only the authors have access to the data. All data are kept under lock and key with the second author of the study. Data is expected to be destroyed after one year commencing from the date of collection, i.e., 2013. The study was not expected to produce harm but participants were informed that should the study bring back traumatic memories that they would be attended to by clinical psychologists at the hospital where one of the researchers worked. Only three persons reported having flash backs when they read through the questionnaire and were referred to psychologists and services were provided free of charge

Results:

The study was anchored on three hypotheses: Hypothesis one stated that there will be a relationship between cumulative adversities and mental health. Hypothesis two stated that there will be a relationship between exposure to violence during childhood and poor mental health. Hypothesis three stated that there will be a significant difference, as a function of gender, between cumulative adversities, and exposure to violence and mental health.

To test hypotheses 1 and 2, we examined the prospective associations between the three variables, and the predictive paths from our independent variables: CAs, CEDV 1 and 2 on the dependent variable-mental health using hierarchical multiple regression. Independent variables were cumulative adversities measured in three subscales (CA Fam, CA ChildAdv and CAPerAdv), exposure to violence (direct exposure-CEDV1, indirect exposure CEDV2) and gender (males and females). The dependent variable was mental health measured with GHQ-28. Hypothesis 3 was tested with a t-test.

Results are presented below. First, a correlation of all variables was carried out (Table 1). The essence of this step was to help us know which variables were significant for the next step of hierarchical regression. Second, the method used in these analyses was that cumulative adversities were expected to significantly predict poor mental health. This variable was entered as demanded by the rules of multiple regressions. Subsequently, all other variables were hierarchically entered by step wise procedure. The results generated five models, (Table 2).

According to Table 1, there was a strong correlation between CAs, exposure to violence and mental health.

Table 1: *Correlation among study variables in the study (N=475)*

Variables	1	2	3	4	5	6	7
1. CA	-						
2. CEDV 1		-					
3. CEDV 2		.72**	-				
4. GHQ SS		.25**	.41**	-			
5. GHQ Anx		.28**	.44**	.73	-		
6. GHQ SD		.28**	.34**	-.56**	.63*	-	
7. GHQ Dep		.26**	.40**	.58**	.64**	.62**	-
8. GHQ total		.31**	.47**	.85**	.89**	.81**	.84**

NB: CA=Cumulative adversity; CEDV1=child exposure to domestic violence (indirect exposure); CEDV2=child exposure to domestic violence (Direct exposure); GHQ SS= Mental health: Somatic symptoms; GHQ Anx= Mental health: Anxiety or Insomnia; GHQ SD= Mental health: Social Dysfunction; GHQ Dep= Mental health: Severe Depression; GHQ Total= Mental health total.
 Note: * = $p < 0.05$; ** = $p < .01$

The results of the analyses from the sample showed significant positive correlations between CEDV 1, $r(500) = .31, p < .01$ and CEDV2, $r(500) = .47, p < .01$ with GHQ total. The results of the analyses also showed a strong positive correlation between CEDV1, CEDV2 and subscales of GHQ (somatic symptoms, anxiety, social dysfunction and depression) with r ranging from .25 to .44. Following the rules of multiple regression analysis, the high

correlations were then used to input data in the multiple regressions. Cumulative adversities were first entered in the model, followed by exposure to violence, and subsequently, all other variables were hierarchically entered by step wise procedure. The results generated five models, (Table 2).

Table 2: Regression analyses with GHQ total as dependent variable and CA total and CEDV as independent variable

Variable	Model 1			Model 2			Model 3			Model 4			Model 5		
	B	SE B		B	SE B	β	B	SE B	B	B	SE B	β	B	SE B	β
CA FAM															
	1.550		.190	.361	.649	.200	.151	.445	.208	.104	.330	.214	.077	.159	.207 .037
CA PerAdv				2.343	.257	.426	2.166	.260	.394	2.090	.261	.380	1.908	.252	.347
CA ChilAdv							.624	.188	.150	.549	.191	.132	.332	.186	.080
CEDV1										.382	.178	.098	-.478	.219	-.123
CEDV2													.660	.106	.369
Constant	19.098	1.063		16.472	1.018	-	14.182	1.221	-	14.254	1.217		8.880	1.450	
R															
R ²			.361			.517			.534			.541			.592
F			.131			.268			.286			.293			.351
			66.729			80.996			58.878			45.668			47.496

Note: * = $p < 0.05$; ** = $p < .01$

The first and second hypotheses expected that CAs and exposure to violence will predict poor mental health. According to Table 2, results showed that the overall model significantly predicts poor mental health of workers, $R^2 = 0.35$, $F(5, 440) = 47.49$, $p < .0001$. The variables (CA FAM, CAPerAdv, CA ChildAdv, indirect exposure (CEDV1) and direct exposure (CEDV 2) explained 59% of the total variance on poor mental health. Of the variables, the main significant predictors of mental health were: CA PerAdv ($b = .35$, $t(445) = 7.56$, $p < .01$), CEDV1 ($b = -.123$, $t(445) = -2.18$, $p < .05$) and CEDV2 ($b = .37$, $t(445) = 6.25$, $p < .01$). In addition, the Durbin-Watson result (1.58) is less than 2 and therefore shows that the assumptions of independent error are met for this model.

Hypothesis three stated that there will be a significant difference between gender, in respect of cumulative adversities, exposure to violence and mental health. Results (table 3) below showed significant main effects on two of the CA measurements-Cumulative adversity (Family) (CAFam), $t(498) = 3.64$, $p < .0001$ and Cumulative adversity (Personal adversity) (CAPerAdv), $t(498) = 2.37$, $p < .01$, with males having higher mean scores than females on Cumulative adversity (Family) (X-bar 4.87 versus X-bar 3.73) and Cumulative adversity (Personal adversity) (X-bar 3.11 versus X-bar 2.52) (table 3).

Table 3: Independent t-test showing means and standard deviations of males and females on Cumulative adversities, exposure to violence and psychological dysfunctions measured with the General Health Questionnaire-28.

Variables	Males		Females		t	P
	Mean	S.D.	Mean	S.D		
CA.FAM	4.87	3.63	3.73	3.32	3.641	.000***
CA.PerAdv	3.11	2.73	2.52	2.72	2.375	.01**
CA.ChildAdv	5.97	3.49	5.71	3.75	.813	.ns
CEDV1	2.95	3.92	2.61	3.88	.954	ns
CEDV2	16.9	8.27	14.5	8.91	3.003	.003*
GHQ-SS	6.59	4.63	6.18	4.31	1.037	ns
GHQ-Anx	7.59	4.41	6.89	5.15	1.681	ns
GHQ-SDys	5.29	4.41	4.61	5.18	1.583	ns
GHQ-Dep	15.95	4.448	13.27	4.41	1.583	ns

*P<.005; **P<.01; ***P<.0001

CAFam - Cumulative adversity (Family)

CAPerAdv - Cumulative adversity (Personal adversity)

CACHildadv - Cumulative adversity (Childhood adversity)

GHQ-SS (GHQ Somatic Complaints)

GHQ-Anx (GHQ-Anxiety)

GHQ-SDys (GHQ-Social Dysfunction)

GHQ-Dep (GHQ-Depression)

In addition, there was also a significant main effect for direct exposure to violence (CEDV2), $t = (498) = 3.00$, $p < .003$ with males scoring higher than females (X-bar 16.9 versus X-bar 14.5). There were no significant results for Cumulative Childhood adversity (CA.ChildAdv), indirect exposure (CEDV1) and the four subscales of mental health-somatic complaints, anxiety, social dysfunctions and depression on gender. This result partially confirmed the stated hypothesis.

Discussion and Conclusions:

This study investigated (1) whether there will be a relationship between cumulative adversities and poor mental health, (2) whether there will be a relationship between exposure to violence during childhood and poor mental health and (3) whether there will be a significant

difference, as a function of gender, between cumulative adversities, exposure to violence and mental health.

Results of hypotheses 1 and 2 showed that cumulative adversities and exposure to violence predicted poor mental health report. Hypotheses 1 and 2 are supported in the predicted direction. The findings are in line with the results of Lamont (2010); McQueen, Itzin, Kennedy, Sinason, and Maxted, (2009), Olesen, *et al.*, (2010) who found that childhood adversity, such as exposure to child abuse and neglect can lead to a wide range of adverse consequences that can last a lifetime with ramifications for mental health and general wellbeing. A study conducted by McLaughlin, *et al.*, (2010), found that exposure to CAs involving maladaptive family functioning, e.g. parental mental illness, substance use disorder, criminality, family violence, physical and sexual abuse, and neglect were significantly associated with persistence of mood and anxiety disorders and that these associations remained statistically significant throughout the life course. According to Afifi, Enns, Cox, Asmundson, Stein, and Sareen (2008) and McLaughlin, *et al.*, (2010) these associations render individuals with a history of cumulative adversities as especially vulnerable to mental disorders triggered by adult stressors. Although cumulative adverse consequences are particularly apparent for mental health problems, Rodgers, Blewitt, Jacomb and Rosenman, (2010), claimed that in some instances it might be the severity of adversity that may actually cause poor mental health.

The study also supports the view points of Piquero *et al.*, (2005) that exposure to violence is a form of cumulative adversity that can have negative implications for transitions to adulthood especially since trajectories established during early adulthood have profound implications for the quality of later life. This exposure can have significant effects on child development

and the formation of intimate relationships throughout childhood and adulthood (Muscari, 2010). Exposure to violence (direct or indirect) has detrimental effects (Foster & Brooks-Gunn, 2009; Sternthal, Jun, Earls, & Wright, 2010).

Theoretically, the findings also support the social learning theory (Akers & Sellers, 2009; Bandura, 1973; Lewis & Fremouw, 2001), Social Stress theory (Rutter, 2005; Thompson, Mazza, Herting, Randell, & Eggert, 2005) and the Life Course perspective (Hutchison, 2007). In general these theories stipulate that multiple adverse exposures of perceived stressors arising from a constellation of contextual stressors, chronic strain, and acute stressors contribute to poor mental health outcomes. Researchers have also shown that chronic childhood adversity is a known aetiological factor in the development of psychopathology (Benjet, Borges, & Medina-Mora, 2010). According to Richards (2011), witnessing violent behaviours make individuals exhibit attitudes and behaviours that reflect their childhood experiences which persist as stressors into adulthood. In a work place setting, these externalized behavioural problems may lead to other psychopathological problems that may in turn affect productivity and workplace wellness. And vulnerability to current and future stresses may be heightened by these past traumas.

Hypothesis three showed that males and females reported differently on two of the cumulative adversity measurements (cumulative adversity (family) and cumulative adversity (personal adversity) and direct exposure to violence with males scoring higher. The stated hypothesis was partially supported in the predicted direction. The findings support Javidi and Yadollahie (2012) and WHO (2012) concept of gender differences in the impact of stress and response to adversity.

According to Slopen, Williams, Fitzmaurice, and Gilman (2011) there are substantial gender differences in the exposure and reaction to cumulative adversity although the study found that there was no sex difference in major depression (MD) among males and females who did not experience a stressful life event, while females who had been exposed to a stressful life event had a threefold increase in risk for MD relative to males exposed to a stressful life event. The gender debate is not conclusive. This study found males scoring higher on two of the three CAs than females. Some studies found women reporting more CAs. However, sex differences in the development of mental illness due to CAs may be embedded in the difference in reaction to trauma by these sexes. Men and women may manifest their emotional pain in different ways.

Theoretically, the differential exposure hypothesis suggests that females report higher levels of health problems (compared to males) because of their reduced access to the material and social conditions of life that foster health (Denton, Prus, & Walters, 2004). Research shows that when differential exposure to the structural, behavioural and psychosocial determinants of health are used as mediators between gender and health, gender differences in health are only partly explained (McDonough & Walters, 2001; Walters, McDonough, and Strohschein, 2002). On the other hand, the differential vulnerability hypothesis suggests that females report higher levels of health problems because they react differently to the social determinants of health than males (McDonough & Walters, 2001). For example, females are more likely to benefit from social support and caring for a family than males (Denton *et al.*, 2004; Prus & Gee, 2003). Males and females may experience stress in different ways. Evidence shows that females react more intensely to ongoing strains than males do, while males are more likely to suffer from economic stressors (Wheaton, 1990).

In this study, males reported more CAs and violence exposure than females. It is possible that cultural and environmental factors may also influence the nature of results in such research. Culturally males are more likely to spend more time outside of the home than females due to the socialization, and therefore more likely to witness violence in the community. There were no significant results for Cumulative Childhood adversity, indirect exposure (CEDV1) and the four subscales of mental health-somatic complaints, anxiety, social dysfunctions, and depression on gender.

Conclusions:

This study contributes to the body of prior research by showing that CAs and exposure to violence can predict mental health and that men and women react differently on CA and exposure to violence in childhood. The study has contributed to the existing body of literature in several significant ways and in addition, this is one of the first studies to research about the aforementioned variables in workplace settings in South Africa. In this study, the following conclusions are made:

- Adversities in family, personal, childhood, direct and indirect exposure to violence jointly predict poor mental health.
- Of these variables only personal adversity, direct and indirect exposure to violence significantly predicted poor mental health outcomes
- Direct and Indirect exposure to violence significantly and jointly predicted poor mental health outcome.
- There was a significant difference between males and females with males scoring higher on cumulative adversity (family)
- There was a significant difference between males and females with males scoring higher on cumulative adversity (personal adversity)

- There was also a significant difference between males and females with males scoring higher on direct exposure to violence (CEDV2).
- There were no significant results for cumulative childhood adversity (CA.ChildAdv), indirect exposure (CEDV1) and the four subscales of mental health-somatic complaints, anxiety, social dysfunctions and depression and gender
- Gender did not predict poor mental health outcomes.

Limitations of the study include the fact that the study used self-report measures and the tendency to appear good may have affected response behavior since workers were sensitive to the questionnaire fearing it may have ramifications for work behavior. Total anonymity is recommended in further studies. Another limitation, though in a small degree, was language. Some of the respondents' level of education made it difficult to understand some of the questions even after translation was provided by the researcher. Sample characteristics also did not indicate ethnicity, home language, socio-economic status and educational level of the participants for the purposes of generalization. The measures available for this type of research were mostly developed in non African countries. There is still a shortage of appropriate measures applicable to Africa.

Recommendations:

In summary, this study has shown through literature and theories like other studies cited that cumulative adversities have negative ramifications for poor mental health among workers. These negative consequences need to be known through regular evaluations of workers. Poor mental health may appear in form of lateness, absenteeism, fatigue, stress, undiagnosed depression, anxiety, and insomnia which may cause an individual to be dysfunctional in a workplace with serious psychological and economic costs. In addition, it is important to

know that men and women differ on cumulative adversities and in the ways they are exposed to violence in childhood. It is recommended that employees be encouraged to undergo psychological evaluations on a regular basis. This would help management detect early symptoms for early prevention and intervention. Prevention it is said is better than cure. The costs involved in absenteeism and other preventable health-related problems and the ramifications it has on productivity can be avoided if early detections are made and necessary preventive interventions put in place. Management should also be sensitive to gender workload in a workplace setting.

According to Farrell (2011), workplace programmes which promote positive health can improve the mental wellness of employees. This approach will bring awareness of the problem and provide, the directly and indirectly, affected individuals with knowledge and a conducive environment to seek out assistance. On site health promotions will help in the reduction of stigma and subsequently encourage affected employees to seek treatment.

The South African government through the Department of Public Service and Administration has already put in place measures to address workplace mental wellbeing. All government departments are required to have the Integrated Employee Health and Wellness Programme, an in-house based programme which addresses workplace wellness. The coordinator or practitioner of this programme should educate managers and staff about mental health. With better understanding and a positive culture, managers can feel comfortable talking with employees about their condition. Proactive trainings in stress management should be conducted.

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REFERENCES

- Aderibigbe, Y.A & Gureje, O. (1992). The validity of the 28-item General Health Questionnaire in a Nigerian antenatal clinic. *Soc Psychiatry Psychiatr Epidemiol*, 27, 6, 80-3
- Afifi, T.O., Enns, M. W., Cox, B.J., Asmundson, G. J.G., Stein, M. B & Sareen, J. (2008) Population attributable fractions of psychiatric disorders and suicide ideation and attempts associated with adverse childhood experiences. *Am J Public Health*, 98, 5, 946-952.
- Akers, R.L & Sellers, C.S. (2009). *Criminological theories: Introduction, evaluation, and application*. New York: Oxford University Press.
- Bandura, A. (1973). *Aggression: A Social Learning Analysis*. New Jersey: Prentice-Hall Publication.
- Baumann, A. & Muijen, M. (2010). *Mental health and Well-being at the Workplace: protection and inclusion in challenging times*. Retrieved 10.06.2011, from <http://www.euro.who.int/-data/assets/pdf-file>
- Benjet, C., Borges, G., Medina-Mora, M.E., Zambrano, J., Cruz, C., & Mendez, E. (2009). Descriptive epidemiology of chronic childhood adversity in Mexican adolescents. *Journal of Adolescent Health*, 45, 483-489.

Benjet, C., Borges, G., & Medina-Mora, M.E. (2010). Chronic childhood adversity and onset of psychopathology during three life stages: Childhood, adolescence and adulthood.. *Journal of Psychiatric Research*, 44, 732-740.

Bradshaw D. (2003). *Initial Burden of Disease Estimates for South Africa, 2000*. Cape Town: Medical Research Council. Retrieved 07.06.2011, from www.mrc.ac.za/bod/inititalbodeestimates.pdf

Buse, D.C. (2011). Adverse Childhood Experiences Are Associated With Risk for Migraine Later in Life. *Neurology Reviews*, 19, 5, 24-29

Denton, M., Prus, S., & Walters, V (2004). Gender Differences in Health: A Canadian Study of the Psychosocial, Structural, and Behavioural Determinants of Health. *Social Science and Medicine*, 58, 12, 2585-2600.

Edleson, J.L., Shin, N. Katy, K. & Armendariz, J. (2008). Measuring children's exposure to domestic violence: The development and testing of the Child Exposure to Domestic Violence (CEDV) Scale. *Children and Youth Review*, 30, 502-521

Farrell, E (2011). *Mental health at work – how employers can make a difference*. Retrieved 01.05.2011, from <http://www.axapphealthcarebusiness.co.uk>

Foster, H & Brooks-Gunn, J. (2011). Effects of physical family and community violence on child development. *Encyclopaedia on Early Childhood Development*. Montreal, Quebec: Centre of Excellence for Early Childhood Development, 1-7.



- Gbolagunte, O.A. (1991): *The impact of psychiatric illness on the mental health of patient's spouses*. Unpublished M.Sc. Thesis. Department of Psychology. University of Ibadan.
- Godbouta, N., Dutton, D.G., Lussier, Y. & Sabourina, S. (2009). Early Exposure to Violence, Domestic Violence, Attachment Representations, and Marital Adjustment. *Personal Relationships*, 16, 365-384
- Goldberg, D. P. & Hillier, V. F. (1979). A scaled version of the General Health Questionnaire. *Psychological Medicine*, 9, 139–145.
- Gordon, A. (2011). *Mental Health Remains An Invisible Problem in Africa*. Retrieved 01.06.2011, from: <http://www.thinkafricapress.com>
- Gureje, O. & Obikoya, B. (1990). The GHQ as a screening tool in primary care setting. *Social Psychology and Psychiatric Epidemiology*, 25, 5, 276-80
- Hareven, T. K. (2000). *Families, History, and Social Change. Life-course and crosscultural perspectives*. Boulder: Westview Press.
- Hayes, A., Gray, M., & Edwards, B. (2008). *Social inclusion: Origins, concepts and key themes*. Canberra: Australian Institute of Family Studies.
- Hutchison, E.D. (2007). *Dimensions of Human Behaviour: A Life Course Perspective*. London: Sage Publications.

- Idemudia, E.S. & Matamela, N.A. (2011). Does Stigma Predict Mental Illness? A study of HIV/AIDS and Cancer patients in Gauteng Province, South Africa. *Revista Psicologia e Saude*, 3, 1, 1-9.
- Javidi, H., & Yadollahie, M. (2012). Post-traumatic Stress Disorder. The International *Journal of Occupational and Environmental Medicine*, Vol 3. *In Press*
- Lamont, A. (2010). *Effects of child abuse and neglect for adult survivors*. Retrieved 15.04.2011, from www.aifs.gov.au/rs20.html
- Lanius, R. & Vermetten, E. (2009). *The Hidden Epidemic: The Impact of Early Life Trauma on Health and Disease*. Cambridge: University Press.
- Lewis, S. & Fremouw, W. (2001). Dating Violence: A Critical Review of the literature. *Clinical Psychology Review*, 21, 105-127
- Lloyd, D. A. & Turner, R. J. (2008). Cumulative Lifetime Adversities and Alcohol Dependence in Adolescence and Young Adulthood. *Drug and Alcohol Dependence*, 93, 217-226.
- McDonough, P & Walters, V (2001). Gender and health: Reassessing patterns and explanations. *Social Science & Medicine*, 52, 547-559.
- McLaughlin, K. A., Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., & Kessler, R.C. (2010). Childhood Adversities and Adult Psychiatric Disorders in the

National Comorbidity Survey Replication II: Associations with Persistence of DSM-IV Disorders. *Arch Gen Psychiatry*, 67, 2, 124-132

McQueen, D., Itzin, C., Kennedy, R., Sinason, V., & Maxted, F. (2009). *Psychoanalytic psychotherapy after child abuse. The treatment of adults and children who have experienced sexual abuse, violence, and neglect in childhood*. London: Karnac Books Ltd.

Muscari, M. E. (2010). *How Does Exposure to Violence Affect Children?* Retrieved 10.10.2011, from <http://www.medscape.co.za>

Nagyova, I., Krol, B., Szilasiova, A., Stewart, R.E., Van Dijk, J.P., and Van den Heuvel, W.J.A. (2000). General Health Questionnaire 28: Psychometric Evaluation of The Slovak Version. *Journal of Psychological Study*, 42, 4, 351-361.

Olesen, S. C., Macdonald, E., Raphael, B., & Butterworth, P. (2010). *Children's exposure to parental and familial adversities. Findings from a population survey of Australians*. Australian Institute of Family Studies (AIFS).

Piquero, A. R., Brame, R., & Moffitt, T. (2005). Extending the study of continuity and change: Gender differences in the linkage between adolescent and adult offending. *Journal of Quantitative Criminology*, 21, 219–242.

Pirkola, S., Isometsa, E., Aro, H., Kestila, L., Hamalainen, J., Veijola, J., Kivuruusu, O. &

- Lonnqvist, J. (2005). Childhood adversities as risk factors for adult mental disorders. *Social Psychiatry and Psychiatric Epidemiology*, 40, 10, 769–777.
- Prus, S., & Gee, E. (2003). Gender differences in the influence of economic, lifestyle, and psycho-social factors on later-life health. *Canadian Journal of Public Health*, 94, 3, (In press).
- Richards, K. (2011). *Children's exposure to domestic violence in Australia, Trends and issues in crime and criminal justice*. Retrieved 16. 06. 2011, from <http://www.aic.gov.au/publications/current%20series/tandi/401-420/tandi419.aspx>
- Rodgers, B., Blewitt, K., Jacomb, P., & Rosenman, C. (2010). *Childhood Adversity and Abuse and Mental Health in Adult Life*. Retrieved 05. 10. 2011, from www.aifs.gov.au/conferences/aifs8/rodgers-ab.pdf.
- Rutter, M. (2005). Environmentally mediated risks for psychopathology: Research strategies and findings. *Journal of the American Academy of Child and Adolescent Psychiatry*, 44, 3 - 18.
- Sarason, I., Johnson, J., & Siegel, J. (1978). Assessing the Impact of Life Changes: Development of the Life Experiences Survey. *Journal of Consulting and Clinical Psychology*, 46, 5, 932-946.
- Saunders, P., Naidoo, Y. & Griffiths, M. (2007). *Towards new indicators of disadvantage: Deprivation and social exclusion in Australia*. Sydney: Social Policy Research Centre, University of New South Wales. (In press)

- Schilling, E. A., Aseltine, R. H., & Gore, S. (2007). Adverse childhood experiences and mental health in young adults: a longitudinal survey. *BioMed*, 10, 1186, 1471-2458-7-30.
- Schilling, E. A., Aseltine, R. H., & Gore, S. (2008). The impact of cumulative childhood adversity on young adult mental health: Measures, models, and interpretations. *Social Science & Medicine*, 66, 5, 1140-1151
- Scott, K.M., Von Korff, M., Angermeyer, M.C., Benjet, C., Bruffaerts, R., de Girolamo, G., Haro, J.M., Lépine, J.P., Ormel, J., Posada-Villa, J., Tachimori, H., Kessler, R.C. (2011). Association of childhood adversities and early-onset mental disorders with adult-onset chronic physical conditions. *Archives of General Psychiatry*, 68, 8, 838-44
- Seery, M. D., Holman, E. A., Silver, R. C. & Cohen, R. (2010). Whatever does not kill us: Cumulative Lifetime Adversity, Vulnerability, and Resilience. *Journal of Personality and Social Psychology*, 99, 6, 1025-1041.
- Shmotkin, D., & Litwin, H. (2009). Cumulative adversity and depressive symptoms among older adults in Israel: the differential roles of self-oriented versus other-oriented events of potential trauma. *Soc Psychiat Epidemiol*, 44, 989–997
- Slopen, N., Williams, D. R., Fitzmaurice, G. M., & Gilman, S. E. (2011). Sex, stressful life events, and adult onset depression and alcohol dependence: Are men and women equally vulnerable? *Social Science & Medicine*, 73, 4, 615-22.

South African Police Services (2009). Crime Situation in South Africa: An Analysis of the national crime situation. Retrieved 05.07.2011, from http://www.saps.gov.za/saps_profile/strategic_framework/annual_report/2008_2009/2_crime_situation_sa.pdf

Statistics South Africa (2001). Prevalence of diasbility in South Africa (Census). URL: <http://www.statssa.gov.za/census01/html/Disability.pdf>

Sternthal, M.J., Jun, H.J., Earls, F., & Wright, R.J. (2010). Community violence and urban childhood asthma: a multilevel analysis. *Eur Respir J.* 36, 6, 1400-09.

Straker, G., Mendelsohn, M., Moosa, F. & Tudin, P. (1996). Violent political contexts and the emotional concerns of township youth. *Child Development*, 67, 46-54.

Thompson, E. A., Mazza, J. J., Herting, J. R., Randell, B. P., & Eggert, L. L. (2005). The Mediating Roles of Anxiety, Depression, and Hopelessness on Adolescent Suicidal Behaviors. *Suicide and Life Threatening Behavior*, 35, 14-34.

Walters, V., McDonough, P., & Strohschein, L. (2002). The influence of work, household structure, and social, personal and material resources on gender differences in health: An analysis of the 1994 Canadian national population health survey. *Social Science & Medicine*, 54, 5, 677-692 .

Wheaton, B. (1990). Life transitions, role histories, and mental health. *American Sociological Review*, 55, 209–223.

World Health Organization. (2010). Mental Health: Strengthening our response. Retrieved 19/10/2011, from www.who.int/mediacentre/factsheets/fs220/en/

World Health Organization. (2012). Gender and Women's Health. Retrieved 11/01/2012, from www.who.int/mental_health/prevention/genderwomen/en/.

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EDITORIAL

With this Volume Ten Number One, 2012 we have maintained our younger journal; Gender & Behaviour for a decade. The Twenty articles that make this issue are from every corner of the world, all aimed at illuminating the gender and behaviour studies terrain. In December 2012, we shall publish the Volume 10, Number 2 with our DECADE INDEX of Gender & Behaviour.

I am greatly beholden to Matthew Olasupo (Manager) who has been a great inspiration to me. We congratulate all the stakeholders of our efforts. God will bless you. We say a big thank you to all our wellwishers.

Sincerely yours,

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The Viagra Revolution

The three pills;

Cialis(tadalafil),

Viagra(Sildenafil), and

Levitra(Vardenafil) have

revolutionalized the treatment

of erectile disorder over the

past decade

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**The Relationship between Gender, Cumulative Adversities
and Mental Health of Employees in Workplace Settings in
Gauteng Province, South Africa**

Erhabor Idemudia* and Mikateko Mabunda

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Abstract

This study investigated whether (1) males and females will differ on cumulative adversities (CAs) and exposure to violence during childhood (hypothesis one) and (2) whether CAs and exposure to violence will predict poor mental health report (hypothesis two). CAs were measured in three forms (family adversities (CAFam), personal adversities (CAPerAdv) and childhood adversities (CACHildAdv). Exposure to violence was either indirect (CEDV1) or direct (CEDV2). Mental health was measured with GHQ-28. Five hundred participants were randomly selected from three hospital complexes in Gauteng Province, South Africa. Data was collected using a questionnaire with three sections. Age of employees ranged between 18-65 years. Males were 251 (50.2%) and females were 249 (49.8%). Mean age of employees was 33.8 years (SD= 11.0). Results of the study showed significant differences between males and females on two of the CA measurements: Family adversities (CA FamAdv), $t = (498) = 3.64$, $p < .0001$ and Personal adversity (CAPerAdv), $t = (498) = 2.37$, $p < .01$. Males had higher mean scores than females on Family adversities (X-bar 4.87 versus X-bar 3.73) and personal adversities (X-bar 3.11 versus X-bar 2.52). In addition, there was also a significant main effect for direct exposure to violence (CEDV2), $t = (498) = 3.00$, $p < .003$ with males scoring higher than females (X-bar 16.9 versus X-bar 14.5). There were no significant results for Cumulative Childhood adversity (CA.ChildAdv), indirect exposure (CEDV1) and the four subscales of mental health-somatic complaints, anxiety, social dysfunctions and depression and gender.

Results also show that family, personal, childhood adversities, indirect and direct exposure to violence in childhood jointly predicted poor mental health, $R^2 =$

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0.35, $F(5, 440) = 47.49$, $p < .0001$ explaining 59% of the total variance on poor mental health. Only personal adversities, ($b = .35$, $t(445) = 7.56$, $p < .01$), direct exposure (CEDV2) ($b = .37$, $t(445) = 6.25$, $p < .01$) and indirect exposure (CEDV1) ($b = -.123$, $t(445) = -2.18$, $p < .05$) significantly predicted poor mental health outcomes. Gender did not predict poor mental health outcome and therefore was excluded in the model. Recommendations were made in light of the findings of the study including a regular psychological evaluation of workers in wellness programmes.

Keywords: Gender/Cumulative adversities/Mental Health/Employees/Workplace setting/Gauteng Province/ South Africa

Introduction & Background of study

Being psychologically healthy is as important as indeed the working environment and the job itself (Farell, 2010). The impact of mental health problems in the workplace has serious consequences not only for the individual but also for the productivity of the enterprise (Baumann & Muijen, 2010, WHO, 2010). According to Baumann and Muijen (2010), employee performances, rates of illness, absenteeism, accidents and staff turnover are all affected by employees' mental health status.

Stressors causing poor mental health can be accumulated from childhood and into adulthood. These cumulative adversities (CAs) may have ramifications for mental health in a workplace. Cumulative adversity (CA) is defined as exposure to potentially traumatic events along life (Shmotkin and Litwin, 2009). These events have been linked with adult mental health problems. Lamont (2010) stated that childhood adversity, such as exposure to child abuse and neglect, can lead to a wide range of adverse consequences that can last a lifetime. Sometimes, the effects remain largely hidden only to emerge at key times in later life (McQueen, Itzin, Kennedy, Sinason, & Maxted, 2009). It is important to note that people experience cumulative adversities directly or indirectly through witnessing during childhood. Both of these experiences are said to have both immediate and long-term consequences for health and general wellbeing (Olesen, Macdonald, Raphael and Butterworth, 2010) which according to Hayes, Gray, & Edwards (2008) and Saunders, Naidoo, & Griffiths, (2007) offers an explanation for the common co-occurrence of many of these adversities and adult mental health. Adverse life events or stressors that occur to a child's parent or within their familial context have been connected to health,

behavioural and social difficulties during childhood, and poorer outcomes later in life (Olesen *et al*, 2010).

Parental and familial stressors are consistently linked to poorer developmental, academic and health outcomes during childhood and later adulthood (Olesen *et al*, 2010). A study conducted by McLaughlin *et al*, (2010), found that exposure to CAs involving maladaptive family functioning, e.g. parental mental illness, substance use disorder, criminality, family violence, physical and sexual abuse, and neglect were significantly associated with persistence of mood and anxiety disorders and that these associations remained statistically significant throughout the life course. According to Afifi, Enns, Cox, Asmundson, Stein, and Sareen (2008) and McLaughlin, Green, Gruber, Sampson, Zaslavsky, and Kessler (2010) these associations render individuals with a history of CAs especially vulnerable to mental disorders triggered by adult stressors. Shmotkin and Litwin's (2009), reported that cumulative adverse events also have an influence on physical health. In a recent study, Scott, et al, (2011) examined cross-sectional community data in adults from 10 countries. History of childhood adverse experiences was shown to increase risk for all six of the medical disorder groups and adults with experience of three or more adverse childhood experiences were found to have the greatest risk of an adult medical disorder. Cumulative adversity creates a vulnerability to poor mental health which affects physical health. In Scott's et al. (2011) study, an early-onset, before age 21, of an anxiety disorder or depression increased adult medical disorder risk for the six categories presented in the study.

Although cumulative adverse consequences are particularly apparent for mental health problems (Rodgers, Blewitt, Jacomb and Rosenman, 2010), in some instances it might be the severity of adversity that may actually cause poor mental health. Respondents with higher cumulative adversity, in Schilling, Aseltine, and Gore's (2008) research, had disproportionately poorer mental health because of the severity of the adversities they were exposed to, and not the cumulative number of different types of adversities experienced.

According to Seery, Holman, Silver and Cohen (2010), exposure to adverse life events typically predicts subsequent negative effects on mental health and well-being, such that more adversity predicts worse outcomes. These negative life events have been implicated in the development of alcohol dependence (Lloyd and Turner, 2008). Findings from the study suggest that high levels of lifetime exposure to adversity are implicated causally in the onset of alcohol dependence.

The workplace environment demands an overall wellness of an individual to enable them to function to their fullest capacity. Psychological problems may hinder productivity as it would affect optimal functioning. According to Statistics South Africa (2001), a high percentage of all disability affecting work is due to "emotional" and intellectual disability. Bradshaw (2003) have described neuro-psychiatric disorders as the second highest proportion of burden of disease after HIV/AIDS in Western Cape alone. Unfortunately, understanding mental health in work settings is hardly investigated. In addition, understanding the difference between men and women and mental health work settings is lacking in psychology literature and particularly among studies from Africa. Therefore, proactive measures in promoting mental health research for men and women are necessary in order to improve work place wellness and productivity in the workplace.

Cumulative adversity is a complex subject to study as it involves many facets with vast differences. Firstly most studies use self reported cumulative adversity exposure which varies amongst individuals (See Schilling, Aseltine and Gore, 2008). Secondly accuracy is not certain as accuracy involves comparability of measures across countries which some of these study do not comply (e.g. not much research includes third world countries as in Africa). Thirdly adverse experiences may also foster subsequent resilience, with resulting advantages for mental health and well-being instead of the opposite (Seery, Holman, Silver and Cohen (2010).

Shimmin (2009) states that sex and gender-based analysis leads to better science. According to him, sex and gender difference strongly affect understanding and seeking the best approaches to mental health.

Psychological literature has shown that men and women do respond differently to exposure to adversity and also in their coping mechanisms. Recent research (Javidi & Yadollahie 2012) supports the concept of gender differences in the impact of stress and response to adversity. There is also a difference in the types of traumas to which they are exposed. Identifying and recognizing these differences will be effective in managing mental health.

According to Slopen et al (2011) there are substantial gender differences in the exposure and reaction to cumulative adversity. The study found that there was no sex difference in major depression (MD) among males and females who did not

experience a stressful life event, while females who had been exposed to a stressful life event had a threefold increase in risk for MD relative to males exposed to a stressful life event.

With regard to exposure to particular types of traumatic events, studies suggest that women are significantly more likely to experience sexual violence than men, both in childhood and adulthood and physical assault is the most common trauma among men, (Slopen et al, 2011). Also, Jayawickreme et al, (2011) found that women reported more traumatic experiences involving sexual victimization and physical abuse than men and they were more likely to report these types of experiences as the trauma most responsible for their posttraumatic stress disorder (PTSD) symptoms. In other cases, severity and rate of exposure is the same for both sexes but the reaction to the same type of trauma is different. Rates of trauma exposure, in Jayawickreme et al's study, were found to be virtually identical for men and women, but 75% of those who developed PTSD following a trauma were women. Mills *et al's* (2011) data analysis found that men and women did not differ in regard to the likelihood of trauma exposure; however, there were differences in the types of events each gender was likely to have experienced. In a study of Sierra Leone war exposure, an IRC and/or Oxford psychosocial instrument scores revealed significantly higher levels of hostility symptoms among females as compared with males (Betancourt *et al*, 2010). Females also reported significantly lower levels of confidence and pro-social attitudes. Analyses examining the moderating effects of gender revealed significant interaction effects between gender and rape as a predictor of both anxiety and hostility. Different forms of violence exposure do have different effects on the psychosocial adjustment of male and female. For example, in the Sierra Leone war, death of a caregiver had specific implications for depression and anxiety among male child soldiers. Male survivors of rape also tended to show higher levels of anxiety and hostility symptoms. Raped males suffered much higher rates of posttraumatic stress disorder, social dysfunction, and suicidal ideation; while the same association was not true among female ex-combatants.

According to Slopen *et al* (2011) males are more likely than females to become depressed following a divorce/separation and work problems, whereas females were more likely to become depressed following problems of getting along with others. Dawson *et al*. (2010) also found that the association between the number of stressful life events and alcohol consumption was more pronounced among males than females, and also that particular stressful life events (i.e., legal and job related stressors)

differentially impacted the level of alcohol consumption among males.

In the gender-stratified analysis, done by Fujiwara and Kawakami (2011) significant CAs in males were parental mental illness, parental criminal acts, family violence, and parental divorce, and those in females were parental mental illness, family violence, physical abuse, and neglect. The effect of the number of CAs appears to be also different amongst males and females. An increase in the number of CAs increased the probabilities for onset of mental disorder. And according to Jayawickreme *et al*, (2011) gender also plays a role in the onset and presentation of these disorders. The results of the research showed that the association was stronger among females than in males. CAs was more responsible for the development of mental disorder among females than in males. CAs were more likely to be associated with developmental disorders among females in the same study.

The risk of developing mental illness also appears to be greater for women post-trauma than for men, suggesting that the effect of adversity might be greater for females than for males due to the vulnerabilities associated with women. This is consistent with data on posttraumatic stress disorder (PTSD) rates in the study of Grubaugh *et al* (2011) which indicated that women have a higher conditional risk of developing PTSD given exposure to a traumatic event relative to men. There is some evidence that these higher rates of PTSD among women may be caused, in part, by the type of trauma experienced, with women experiencing more interpersonal violence (Parto, 2011).

Sex differences in the development of mental illness due to CAs may be embedded in the difference in reaction to trauma by these sexes. Men and women may manifest their emotional pain in different ways. Nolen-Hoeksema and Aldao (2011) examined differences between men and women in emotion regulation strategies (rumination, suppression, reappraisal, problem-solving, acceptance, social support) and the relationships between these strategies and depressive symptoms. Women were more likely than men to report using several different emotion regulation strategies, and these gender differences were significant even after statistically controlling for gender differences in depressive symptoms. Women used a wider variety of both adaptive and maladaptive coping strategies than men did. It was noted, however, that women may have reported more use of coping strategies because they were experiencing more stress than men. For active coping, avoidance, positive reappraisal, and self-blame, women reported using the strategy more than men only in studies

in which women appraised the stressor as more severe than men did, suggesting that gender differences in these strategies could be the result of gender differences in stressor appraisal.

In a study by Betancourt et al (2010), female and male child soldiers experienced comparable levels of war exposures. Female soldiers reported higher rates of rape and lower levels of adaptive outcomes. Although all boys and girls who experience rape and loss of caregivers are generally at risk for mental health problems with boys demonstrating increased vulnerability. According to Betancourt *et al* (2010) in the aftermath of war, girls are confronted with gender-specific physical and psychological challenges. Within strongly patriarchal post conflict societies, female child soldiers are frequently expected to resume traditional gender roles rather than seek broader opportunities. Given these particularly harsh adversities, it is likely that returning female child soldiers are at greater risk of developing psychological or adjustment problems. In this particular study females affected by war related trauma demonstrated higher rates of psychosocial distress as compared with males, and research by Oladeji, Morakinyo, and Gureje (2011), suggests that females are more vulnerable to depression and posttraumatic stress disorder.

According to Phillips (2009), there are many factors that may affect any person's reaction to a traumatic event and these include the type of traumatic event (sexual assault, for example, is more likely to cause PTSD than many other events), the intensity, proximity and amount of time a person must endure an event (extended deployments, witnessing loss of buddies, extended time trapped in a disaster situation increase the reaction to trauma), childhood history, earlier traumas and the meaning of the trauma to a person.

Cumulative adversity is, to a certain extent, complicated to study as most of the information gathered is self report. There are many aspects to consider, i.e. environment, socialization, culture, gender and many other factors that can affect the response and coping mechanisms to adversity. Based on previous research it is very clear that gender does have a significant influence on exposure to trauma and coping mechanism and its consequence on mental health.

Gender and Mental Health

Gender is a critical determinant of mental health and mental illness. According to WHO (2012) there are striking gender differences found in the patterns of mental illness. When dealing with mental health attention must be paid to possible gender

specific determinants of mental illness such as depression, anxiety and somatic complaints.

Higher rates of major depression (MD) among females, and of alcohol dependence (AD) among males, are among the most routinely reported findings in psychiatric epidemiology (Slopen *et al*, 2011). One of the most often pursued explanations for sex differences in both disorders suggests that males and females have a differential vulnerability to stressors, which is manifested in sex-specific ways (MD for females, AD for males).

McLean *et al* (2011) found a preponderance of women among almost all anxiety disorders examined in a study of Anxiety disorders, consistent with previous epidemiological research. One in three women met criteria for an anxiety disorder during her lifetime, compared to 22% of men. According to McLean *et al* (2011) there are latent gender-dimorphic temperamental factors that play a key role in consequent gender differences both in anxiety and depression. These temperamental factors are thought to be further moderated by gender socialization processes that prescribe gender specific expectations for the expression of anxiety and the acceptable means of coping with anxiety (McLean & Anderson, 2009). In other words, genetic vulnerabilities gradually evolve into fully articulated traits through complex, bidirectional interactions with environmental factors.

Eaton *et al* (2011) have shown that women have higher rates of mood and anxiety disorders, and men have higher rates of antisocial personality and substance use disorders. Eaton *et al*, investigated patterns of disorder co morbidity and found that a dimensional internalizing-externalizing liability model fit the data well, where internalizing is characterized by mood and anxiety disorders, and externalizing is characterized by antisocial personality and substance use disorders. Women showed a higher mean level of internalizing, while men showed a higher mean level of externalizing. This suggests that observed gender differences in prevalence rates of many common mental disorders originate at the level of latent internalizing and externalizing liabilities. There is also difference in gender and help-seeking behaviour. When gender differences were observed in a rural setting study for adolescents, males had a higher preference for seeking help from a psychologist than females (Boyd *et al*, 2011).

Theoretically, the differential exposure hypothesis suggests that females report higher levels of health problems (compared to males) because of their reduced access to the material and social conditions of life that foster health (Denton *et al.*, 2004). Research

shows that women's social positions are different from those of men. Women are less likely to be employed, work in different occupations, more likely to have a low income and to do domestic labour (Denton & Walters, 1999). Studies also suggest that females report higher levels of health problems because they are exposed to higher levels of demands and obligations in their social roles, as well as experiencing more stressful life events (de Vries & Watt, 1996). There is also gender inequality in the exposure to various resources, and lifestyles, with males more likely than females to smoke, consume alcohol, while females are more likely than males to be physically inactive (Denton *et al.*, 2004). Research shows that when differential exposure to the structural, behavioural and psychosocial determinants of health are used as mediators between gender and health, gender differences in health are only partly explained (McDonough & Walters, 2001; Walters *et al.*, 2002). On the other hand, the differential vulnerability hypothesis suggests that females report higher levels of health problems because they react differently to the social determinants of health than males (McDonough & Walters, 2001). For example, females are more likely to benefit from social support and caring for a family than males (Denton *et al.*, 2004; Prus & Gee, 2003). Males and females may experience stress in different ways. Evidence shows that females react more intensely to ongoing strains than males do, while males are more likely to suffer from economic stressors (Wheaton, 1990). McDonough, Walters and Strohschein (2002) found that child (parental) stress; environmental stress and family health stress are linked to health problems for females but not for males. Zuzanek and Mannell's study (1998) reveals that females have greater vulnerability to chronic stressors on health than males. From the above literature and theoretical understanding, this study hypothesizes that (1) That males and females will differ on CAs and exposure to violence and (2) that CAs and exposure to violence will predict poor mental health report although the difference in gender on CAs and mental health is inconclusive according to literature.

Method

Design

This study is a descriptive study. The variables are gender, cumulative adversities measured in three forms (family adversities (CAFam), personal adversities (CAPerAdv) and childhood adversities (CACHildAdv), exposure to violence (direct and indirect) and mental health. Student t-test is used to test the mean difference of males and females on Cumulative adversities, exposure to violence and mental health (hypothesis 1) and a hierarchical multiple regression is used to predict these variables on mental health.

Sample and characteristics

A total of 500 participants, randomly selected using a table of random numbers of "yes" and "No" from three hospital complexes in Gauteng Province, South Africa participated in the study. The methodological advantage of this study is that the sample consists of participants randomly selected from various institutions in Gauteng whose employees are from racially and economically diverse communities. The study utilised a questionnaire with 3 sections-A, B and C. Section A contained demographic items, Section B contained the CA and CEDV scales and Section C contained the GHQ-28. All participants were 18 years or older. Age of employees ranged between 18-65 years. Males were 251 (50.2%) and females were 249 (49.8%). Mean age of employees was 33.8 years (SD= 11.0).

Instruments and Psychometric properties

Data was collected using a questionnaire. The first section comprised of demographic attributes and other social variables. The second section comprised the Cumulative Adversity Scale and the child Exposure to Domestic Violence (CEDV) scale and section C contained the General Health Questionnaire (GHQ- 28) scale.

Cumulative Adversity Scale: (CAS)

Cumulative adversities (CAs) were assessed using single questions to participants on adverse experiences with parents, during childhood and current adulthood. The childhood adversities were adapted from the Childhood Environmental Factors Questionnaire by Pirkola *et al*, (2005). Fifty one (51) items were initially derived from the literature and from a pilot study of a sample of 20 employees in Gauteng. The questions were in short phrases. The scale was pretested on a sample of 20 employees in a workplace in Gauteng whose ages ranged from 20-49 years.

Responses to the items were coded on a 3-point scale of Binary answers of "Yes", "No" and 'I don't know'. 'Yes' was scored 2, I don't know was scored 1 point and a "No" was scored 0. Items were selected in such a way that, adversities were measured in three subscales: family adversities (CAFam), personal adversities (CAPerAdv) and childhood adversities (CACHildAdv). All responses were scored and analysed on the basis of the subscales.

Psychometric properties of this scale were determined. Item analysis using the item remainder correlation technique (with Kuder-Richardson formular, K.R.20) revealed 27 internally consistent items with coefficient alpha of 0.91. Split-half reliability of the scale was $r = 0.80$; content validity was used to

determine validity of the scale since the 27 items selected were based on responses of piloted respondents and also factor analysed, using the principal component method with Varimax rotation. All 27 items with minimum factor loading of 0.40 were included in the scale. Face validity was also built into the scale as the items were made of simple, short phrases and very easy to understand. Some of the items were listed by the respondents themselves on areas of adversities.

To establish convergent validity for the CA, the CA scale scores were compared for 20 workers in Gauteng Province with the Life Experiences Survey, designed by Sarason, Johnson and Siegel (1978). The Life Experiences Survey (LES) is a 57-item self-report measure and allows respondents to indicate events they have experienced during the past year. The scale has two parts, one and two. Only section one was used because it is designed for all respondents and contains a list of 47 specific events. The events listed in this section refer to life changes common to individuals in a wide variety of situations. Many of the items were based on existing life stress measures. Validity Coefficient was $r = 0.39$ and 0.41 , $P < 0.01$, for CA scale and LES respectively. The correlation between the two scales was moderately low but suggests a convergent validity for both scales.

GHQ-28

The General Health Questionnaire is a psychological instrument used in measuring psychological well-being or dysfunctions. It comes in three packs GHQ 60, 28 and 12. This study used the GHQ 28. The GHQ 28 is a scale developed by Goldberg and Hillier (1979). It was used as a self-administered screening instrument for current psychiatric disorder in mental health settings and non-psychiatric clinical setting such as primary care or general medical outpatients. In this scale, the respondents are asked to compare their recent psychological state with their usual state. It consists of 28 items comprising four sub-scales. Scale A (questions from 1-7) measures somatic complaints, scale B (questions from 8-14) measures anxiety and insomnia, scale C (questions from 15-21) measures social dysfunction, and scale D (questions from 22-28) measures severe depression. All items have a 4 point scoring system using Likert scoring (0-1-2-3) less than usual, no more than usual, not at all, and much more than usual respectively). Each question has four possible responses. Some of the items are also reversed and so is the scoring. In this study, scoring was done in such a way that the higher the score, the poorer the psychological report of the patient. The higher the score the lower the psychological well-being of the patient

(Nagyova, Krol, Szilasiova, Stewart, Van Dijk, & Vandeen Heurel, 2000).

A test retest in two weeks for this study demonstrated good reliability (0.90). The GHQ-28 is a widely used instrument and validated for African cultures. Gbolagunte, (1991) carried out a pilot study with 20 normal people, to establish the reliability and validity of the GHQ. Test -retest (in weeks) technique was used. The Pearson product moment correlation was also used to test for consistency. The result showed a positive and relatively high reliability yielding 0.71. Several studies (e.g. Gureje & Obikoya, 1990, Aderibigbe & Gureje, 1992) have been carried out in Ibadan, Oyo State of Nigeria to establish the validity of the GHQ. For instance it has been validated against the psychiatric Assessment Schedule (P.A.S), the correlation of which was 10.88. It has also been used in South Africa, (Idemudia & Matamela, 2011, Straker et al, 1996).

CEDV

The Child Exposure to Domestic Violence (CEDV) scale was systematically developed using both pre- existing and newly developed items and subsequently subjected to a review and revision by an international panel of experts to establish face validity. The measure was administered concurrently with the Things I've Seen and Heard measure of violence exposure to establish convergent validity and again one week later to establish test reliability (Edleson, Shin, Katy, & Armendariz, 2007). The CEDV consists of 42 questions in three sections. The first section includes a series of questions that specifically target the types of exposure to domestic violence experienced. There is a rating of 10 different items focused on types of adult domestic violence. Each question was answered using a three-point Likert-type scale with their choices being "Never", "Sometimes", and "A lot". A second part of this first section requires a child to indicate how he or she knew of the violence occurring at home. If a child responded "Never" to a particular question he or she moved onto the next question. However, if she or he indicated exposure to such violence, the child was led by an arrow to an additional set of options that asked how the child was exposed, including five choices: "I saw the outcome (like someone was hurt, something was broken, or the police came)", "I heard about it afterwards", "I heard it while it was happening", "I saw it from far away while it was happening" and "I saw it and was near while it was happening".

The second section of the CEDV asks a series of 23 questions using the same three-point Likert-type scale. These questions ask

the rate of how often a child intervened in violent events and about other risk factors present in her or his life. The first and second series of questions were coded CEDV 1 and CEDV 2 respectively for easy analysis. The third and final section of the CEDV consists of nine questions asked to gather demographic information, including gender, age, race and ethnicity, current living situation, and family composition. According to Edleson, Shin, Katy, and Armendariz (2007) the CEDV is a valid and reliable measure of the level of exposure to domestic violence from a child's perspective. It has been shown in their study to be both a reliable measure and one that reflects face, content and convergent validity. It is very comprehensive, touching on everything from specific forms of community violence victimization and exposure, to the witness of war and other traumas.

Procedure

After an ethical approval from the university and all the institutions where data were collected, days of visits were communicated to the institutions concerned for data collection. On these dates, the researcher met with employees who were randomly sampled using a table of random numbers of "yes" and "No". All the participants who picked yes and after an informed consent were then provided with information concerning the aim, objectives, and methods of the study in a grade 4 language. Participation in the study was voluntary. They were told they could leave if they felt they didn't want to participate again without fear of being harassed. They were assured of the confidential nature of the study and as such were told not to write their names or provide any contact information such as residential addresses or place of work that would identify them therefore eliminating identification bias. Caring for data during and after analyses was discussed with participants. Only the researcher and the supervisor have access to the data. All data is kept under lock and key with supervisor of the study. Data will be destroyed after one year commencing from the date of collection.

The study was not expected to produce harm but participants were informed that should the study bring back traumatic memories that they would be attended to by clinical psychologists at the hospital where one of the researchers worked. Only three persons reported having flash backs when they read through the questionnaire and were referred to psychologists and services were provided free of charge.

Results

Since research findings on sex differences were mixed, the first hypothesis on gender was anchored on a non-directional hypothesis: That males and females will differ on CAs and exposure to violence. The second hypothesis expected that CAs and exposure to violence will predict poor mental health report.

According to Table 1 below, results (hypothesis one) of t-test showed a significant main effect on two of the CA measurements; Cumulative adversity (Family) (CAFam), $t = (498) = 3.64$, $p < .0001$ and Cumulative adversity (Personal adversity) (CAPerAdv), $t = (498) = 2.37$, $p < .01$. with males having higher mean scores than females on Cumulative adversity (Family) (X-bar 4.87 versus X-bar 3.73) and Cumulative adversity (Personal adversity) (X-bar 3.11 versus X-bar 2.52). In addition, there was also a significant main effect for direct exposure to violence (CEDV2), $t = (498) = 3.00$, $p < .003$ with males scoring higher than females (X-bar 16.9 versus X-bar 14.5). There were no significant results for Cumulative Childhood adversity (CA.ChildAdv), indirect exposure (CEDV1) and the four subscales of mental health-somatic complaints, anxiety, social dysfunctions and depression and gender.

Table 1:

Independent t-test showing means and standard deviations of males and females on Cumulative adversities, exposure to violence and psychological dysfunctions measured with the General Health Questionnaire-28.

Variables	Males		Females		T	P
	Mean	S.D.	Mean	S.D.		
CA.FAM	4.87	3.63	3.73	3.32	3.641	.000***
CA.PerAdv	3.11	2.73	2.52	2.72	2.375	.01**
CA.ChildAdv	5.97	3.49	5.71	3.75	.813	.ns
CEDV1	2.95	3.92	2.61	3.88	.954	ns
CEDV2	16.9	8.27	14.5	8.91	3.003	.003*
GHQ-SS	6.59	4.63	6.18	4.31	1.037	ns
GHQ-Anx	7.59	4.41	6.89	5.15	1.681	ns
GHQ-SDys	5.29	4.41	4.61	5.18	1.583	ns
GHQ-Dep	15.95	4.448	13.27	4.41	1.583	ns

* $P < .005$; ** $P < .01$; *** $P < .0001$

CAFam - Cumulative adversity (Family)

CAPerAdv - Cumulative adversity (Personal adversity)
CACHildadv - Cumulative adversity (Childhood adversity)
GHQ-SS (GHQ Somatic Complaints)
GHQ-Anx (GHQ-Anxiety)
GHQ-SDys (GHQ-Social Dysfunction)
GHQ-Dep (GHQ-Depression)

Hypothesis 2 stated that CAs and exposure to violence will predict poor mental health report. This hypothesis was tested with a hierarchical multiple regression analysis (Table 2 below).

Table 2: Regression analyses with GHQ total as dependent variable and CA total and CEDV as independent variable

Variable	Model 1			Model 2			Model 3			Model 4			Model 5		
	B	SE B	β	B	SE B	β	B	SE B	B	B	SEB	β	B	SEB	β
CA FAM	1.550	.190	.361	.649	.200	.151	.445	.208	.104	.330	.214	.077	.159	.207	.037
CA PerAdv				2.343	.257	.426	2.166	.260	.394	2.090	.261	.380	1.908	.252	.347
CA ChilAdv							.624	.188	.150	.549	.191	.132	.332	.186	.080
CEDV2to10Total										.382	.178	.098	-.478	.219	-.123
CEDV11to34Total													.660	.106	.369
Constant	19.098			16.472	1.018	-	14.182	1.221	-	14.254	1.217		8.880	1.450	
R.		1.063													
R ²		.361			.517			.534				.541			.592
F		.131			.268			.286				.293			.351
		66.729			80.996			58.878				45.668			47.496

Note: * = $p < 0.05$; ** = $p < .01$

The results showed that the overall model significantly predicts poor mental health of workers, $R^2 = 0.35$, $F(5, 440) = 47.49$, $p < .0001$. The variables (CA FAM, CAPerAdv, CA ChildAdv, indirect exposure (CEDV1) and direct exposure (CEDV 2) explained 59% of the total variance on poor mental health. Of the variables, the main significant predictors of mental health were: CA PerAdv ($b = .35$, $t(445) = 7.56$, $p < .01$), CEDV1 ($b = -.123$, $t(445) = -2.18$, $p < .05$) and CEDV2 ($b = .37$, $t(445) = 6.25$, $p < .01$). In addition, the Durbin-Watson result (1.58) is less than 2 and therefore shows that the assumption of independent error is met for this model. Variable excluded in the model is gender.

Discussion and Conclusions

This study investigated whether (1) males and females will differ on CAs and exposure to violence (hypothesis one) and (2) whether CAs and exposure to violence will predict poor mental health report (hypothesis two). The findings of this study showed that males and females reported differently on two of the CAs measurements (Cumulative adversity (Family) and Cumulative adversity (Personal adversity) and direct exposure to violence with males scoring higher. The stated hypothesis was partially supported in the predicted direction. The findings support Javidi and Yadollahie (2012) and WHO (2012) concept of gender differences in the impact of stress and response to adversity. According to Slopen et al (2011) there are substantial gender differences in the exposure and reaction to cumulative adversity although the study found that there was no sex difference in major depression (MD) among males and females who did not experience a stressful life event, while females who had been exposed to a stressful life event had a threefold increase in risk for MD relative to males exposed to a stressful life event. The gender debate is not conclusive. This study found males scoring higher on two of the three CAs than females. Some studies found women reporting more CAs. However, sex differences in the development of mental illness due to CAs may be embedded in the difference in reaction to trauma by these sexes. Men and women may manifest their emotional pain in different ways.

Theoretically, the differential exposure hypothesis suggests that females report higher levels of health problems (compared to males) because of their reduced access to the material and social conditions of life that foster health (Denton et al., 2004). Research shows that when differential exposure to the structural, behavioural and psychosocial determinants of health are used as mediators between gender and health, gender differences in health are only partly explained (McDonough & Walters, 2001;

Walters et al., 2002). On the other hand, the differential vulnerability hypothesis suggests that females report higher levels of health problems because they react differently to the social determinants of health than males (McDonough & Walters, 2001). For example, females are more likely to benefit from social support and caring for a family than males (Denton et al., 2004; Prus & Gee, 2003). Males and females may experience stress in different ways. Evidence shows that females react more intensely to ongoing strains than males do, while males are more likely to suffer from economic stressors (Wheaton, 1990).

In this study, males reported more CAs and violence exposure than females. It is possible that cultural and environmental factors may also influence the nature of results in such research. There were no significant results for Cumulative Childhood adversity, indirect exposure (CEDV1) and the four subscales of mental health-somatic complaints, anxiety, social dysfunctions and depression.

Hypothesis 2 stated that CAs and exposure to violence will predict poor mental health report. The study findings showed that while the three CAs and violence exposure (direct and indirect) cumulatively explained poor mental health, only CA PerAdv, CEDV 1 and 2 predicted poor mental health outcome. This hypothesis was again partially supported. Gender did not predict mental health. This finding supports Lamont (2010); McQueen, Itzin, Kennedy, Sinason, & Maxted, 2009; Olesen, Macdonald, Raphael and Butterworth, 2010) who found that childhood adversity, such as exposure to child abuse and neglect can lead to a wide range of adverse consequences that can last a lifetime with ramifications for mental health and general wellbeing. A study conducted by McLaughlin, Green, Gruber, Sampson, Zaslavsky, and Kessler, (2010), found that exposure to CAs involving maladaptive family functioning, e.g. parental mental illness, substance use disorder, criminality, family violence, physical and sexual abuse, and neglect were significantly associated with persistence of mood and anxiety disorders and that these associations remained statistically significant throughout the life course. According to Afifi, Enns, Cox, Asmundson, Stein, and Sareen (2008) and McLaughlin, Green, Gruber, Sampson, Zaslavsky, and Kessler (2010) these associations render individuals with a history of CAs especially vulnerable to mental disorders triggered by adult stressors. Although cumulative adverse consequences are particularly apparent for mental health problems, Rodgers, Blewitt, Jacomb and Rosenman, (2010), claimed that in some instances it might be the severity of adversity that may actually cause poor mental health.

Investigating CAs in a workplace environment is a complex subject to study resulting in the mixed results in hypothesis testing. There is no doubt that studies such as this is important because the workplace environment demands an overall wellness of an individual to enable the employee function to his/her fullest capacity. Psychological problems may hinder productivity as it would affect optimal functioning.

Conclusions

In this study, the following conclusions are made:

- There was a significant difference between males and females with males scoring higher on cumulative adversity (Family)
- There was a significant difference between males and females with males scoring higher on cumulative adversity (Personal adversity)
- There was also a significant difference between males and females with males scoring higher on direct exposure to violence (CEDV2).
- There were no significant results for Cumulative Childhood adversity (CA.ChildAdv), indirect exposure (CEDV1) and the four subscales of mental health-somatic complaints, anxiety, social dysfunctions and depression on gender.
- Adversities in family, personal, childhood, direct and indirect exposure to violence jointly predict poor mental health.
- Of these variables only personal adversity, direct and indirect exposure to violence significantly predicted poor mental health outcomes.
- Gender did not predict poor mental health outcomes.

Limitations of the study include the fact that the study used a self-report measures and the tendency to appear good may have affected response behavior since workers were sensitive to the questionnaire fearing it may have ramifications for work behavior. Total anonymity is recommended in further studies.

In summary, men and women differ on CAs and in the ways they are exposed to violence in childhood. CAs do also predict poor mental health outcomes. It is recommended that employees should regularly undertake wellness exercise and in addition be

psychologically evaluated on regular basis. This would help management detect early symptoms for early prevention and intervention. Prevention it is said is better than cure. The costs involved in absenteeism and other preventable health-related factors and the ramifications it has on productivity can be avoided if early detections are made and necessary preventive interventions put in place. Management should also be sensitive to gender workload in a workplace setting.

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References

- Aderibigbe, Y.A. & Gureje, O. (1992). The validity of the 28-item General Health Questionnaire in a Nigerian antenatal clinic. *Soc Psychiatr Epidemiol.* 27, 6, 80-3
- Afifi, T.O., Enns, M. W., Cox, B.J., Asmundson, G. J.G., Stein, M. B. & Sareen, J. (2008) Population attributable fractions of psychiatric disorders and suicide ideation and attempts associated with adverse childhood experiences. *Am J Public Health.* 98, 5, 946-952.
- Baumann, A. & Muijen, M. (2010). Mental health and Well-being at the Workplace: protection and inclusion in challenging times . *World Health Organization* , 2-4.
- Betancourt, T. S., Borisova, I. I., de la SoudiÈre, M. & Williamson, J. (2011). Sierra Leone's Child Soldiers: War Exposures and Mental Health Problems by Gender. *Journal of Adolescent Health*, 49, 21-28.
- Boyd, C.P., Hayes, L., Nurse, S., Aisbett, D., Francis, K., Newnham, K., & Sewell, J. (2010). Preferences and intention of rural adolescents toward seeking help for mental health problems. *Rural and Remote Health* 11, 1582.
- Bradshaw D. (2003). Initial Burden of Disease Estimates for South Africa, 2000. Cape Town: Medical Research Council.
- Dawson, D. A., Goldstein, R. B., Moss, H. B., Li, T.-K., & Grant, B. F. (2010). Gender differences in the relationship of internalizing and externalizing psychopathology to alcohol dependence: Likelihood, expression and course. *Drug and Alcohol Dependence*, 112, 9-17. doi: 10.1016/j.drugalcdep.2010.04.019
- de Vries, B., & Watt, D. (1996). A lifetime of events: Age and gender variations in the life story. *International Journal of Aging & Human Development*, 42, 81-102.
- Denton, M., & Walters, V. (1999). Gender differences in structural and behavioural determinants of health: an analysis of the social production of health. *Social Science & Medicine*, 1221-1235.
- Denton, M., Prus, S. & Walters, V. (2004). Gender Differences in Health: A Canadian Study of the Psychosocial, Structural, and Behavioural Determinants of Health. *Social Science and Medicine* 58, 12, 2585-2600.
- Eaton, N. R., Keyes, K. M., Krueger, R. F., Balsis, S., Skodol, A. E., Markon, K. E., Grant, B. F. & Hasin, D. S. (2011). An Invariant Dimensional Liability Model of Gender Differences in Mental Disorder Prevalence: Evidence From a National Sample. *Journal of Abnormal Psychology*, 10, 1037-24780

- Edleson, J.L., Shin, N. Katy, K. & Armendariz, J. (2007). Measuring children's exposure to domestic violence: The development and testing of the Child Exposure to Domestic Violence (CEDV) Scale. *Children and Youth Review, 30*, 502-521
- Farrell, E. (2010). *Mental health at work – how employers can make a difference*. Retrieved 01.05.2011, from <http://www.campaigns.axapphealthcare.co.uk>
- Fujiwara, T., & Kawakami, N. (2011). Association of childhood adversities with the first onset of mental disorders in Japan: Results from the World Mental Health Japan, World Mental Health Japan Survey Group. *Journal of Psychiatric Research 45*, 481-487
- Gbolagunte, O.A. (1991): The impact of psychiatric illness on the mental health of patient's spouses. Unpublished M.Sc. Thesis. Department of Psychology. University of Ibadan.
- Goldberg, D. P. & Hillier, V. F. (1979). A scaled version of the General Health Questionnaire. *Psychological Medicine, 9*, 139-145.
- Grubaugh, A. L., Zinzow, H. M., Paul, L., Egede, L. E., & Frueh, B. C. (2011). Trauma exposure and posttraumatic stress disorder in adults with severe mental illness: A critical review. *Clinical Psychology Review. 31*:883-899.
- Gureje, O. & Obikoya, B. (1990). The GHQ as a screening tool in primary care setting. *Social Psychology and Psychiatric Epidemiology, 25*, 5, 276-80
- Hayes, A., Gray, M., & Edwards, B. (2008). Social inclusion: Origins, concepts and key themes. Canberra: Australian Institute of Family Studies.
- Idemudia, E.S. & Matamela, N.A. (2011). Does Stigma Predict Mental Illness? A study of HIV/AIDS and Cancer patients in Gauteng Province, South Africa. *Revista Psicologia e Saude, 3*,1, 1-9.
- Javidi, H., & Yadollahie, M. (2012). Post-traumatic Stress Disorder. *The International Journal of Occupational and Environmental Medicine, Vol 3. In Press*
- Jayawickreme, N., Yasinski, C., Williams, M., & Foa, E. B. (2011). Gender-Specific Associations Between Trauma Cognitions, Alcohol Cravings, and Alcohol-Related Consequences in Individuals With Comorbid PTSD and Alcohol Dependence. *Psychology of Addictive Behaviors. 10*, 1037
- Lamont, A. (2010). *Effects of child abuse and neglect for adult survivors*. Retrieved 15.04.2011, from www.aifs.gov.au/rs20.html
- Lloyd, D. A. & Turner, R. J. (2008). Cumulative Lifetime Adversities and Alcohol Dependence in Adolescence and

- Young Adulthood. *Drug and Alcohol Dependence*, 93, 217-226.
- McDonough, P. & Walters, V. (2001). Gender and health: Reassessing patterns and explanations. *Social Science & Medicine*, 52, 547-559.
- McDonough, P., Walters, V., & Strohschein, L. (2002). Chronic stress and the social patterning of women's health in Canada. *Social Science & Medicine*, 54, 5, 767-782.
- McLaughlin, K. A., Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., & Kessler, R. C. (2010). Childhood Adversities and Adult Psychiatric Disorders in the National Comorbidity Survey Replication II: Associations With Persistence of DSM-IV Disorders. *Arch Gen Psychiatry*, 67, 2, 124-132
- McLean, C. P., & Anderson, E. R. (2009). Brave men and timid women? A review of the gender differences in fear and anxiety. *Clinical Psychology Review*, 29: 496-505.
- McLean, C. P., Asnaani, A., Litz, B. T., & Hofmann, S. G. (2011). Gender Differences in Anxiety Disorders: Prevalence, Course of Illness, Comorbidity, and Burden of Illness. *Journal of Psychiatric Research*, 45, 1027-1035.
- McQueen, D., Itzin, C., Kennedy, R., Sinason, V. & Maxted, F. (2009). *Psychoanalytic psychotherapy after child abuse. The treatment of adults and children who have experienced sexual abuse, violence, and neglect in childhood*. London: Karnac Books Ltd.
- Mills, B. K. L., McFarlane, A. C., Slade, T., Creamer, M., Silove, D., Teesson, M. & Richard. (2011). Assessing the Prevalence of Trauma Exposure in Epidemiological Surveys. *Aust N Z J Psychiatry* 45, 407
- Nagyova, I., Krol, B., Szilasiova, A., Stewart, R. E., Van Dijk, J. P. & Vandeuren Heurel,
- W. J. A. (2000). General Health Questionnaire 28: Psychometric Evaluation of The Slovak Version. *Journal of Psychological Study*, 42, 4, 351-361.
- Nolen-Hoeksema, S., & Aldao, A. (2011). Gender and age differences in emotion regulation strategies and their relationship to depressive symptoms. *Journal: Personality and Individual Differences* 51, 704-708.
- Oladeji, B. D., Morakinyo, J. J. & Gureje, O. (2011). Traumatic events and post-traumatic stress symptoms among adolescents in Ibadan. *Afr J Med Med Sci*, 40, 1, 23-31
- Olesen, S. C., Macdonald, E., Raphael, B. & Butterworth, P. (2010). Children's exposure to parental and familial adversities. Findings from a population survey of Australians. Australian Institute of Family Studies (AIFS).

- Parto, J. A., Evans, M. K., & Zonderman, A.B (2011). Symptoms of Posttraumatic Stress Disorder Among Urban Residents, *The Journal of Nervous and Mental Disease*. 7:199
- Phillips, S. (2009). Do Men and Women React Differently to Trauma?. Psych Central. Retrieved on January 18, 2012, from <http://blogs.psychcentral.com/healing-together/2009/09/do-men-and-women-react-differently-to-trauma/>
- Pirkola, S., Isometsa, E., Aro, H., Kestila, L., Hamalainen, J., Veijola, J., et al. (2005). Childhood adversities as risk factors for adult mental disorders. *Social Psychiatry and Psychiatric Epidemiology*, 40(10), 769-777.
- Prus, S. and E. Gee, "Gender Differences in the Influence of Economic, Lifestyle, and Psychosocial Factors on Later-life Health", *Canadian Journal of Public Health* 94 (3): 306-309.
- Rodgers, B., Blewitt, K., Jacomb, P., & Rosenman, C. (2010) www.aifs.gov.au/conferences/aifs8/rodgers-ab.pdf. Retrieved on 05. October. 2011
- Sarason, I., Johnson, J. & Siegel, J. (1978). Assessing the Impact of Life Changes: Development of the Life Experiences Survey. *Journal of Consulting and Clinical Psychology*, 46, 5, 932-946.
- Saunders, P., Naidoo, Y. & Griffiths, M. (2007). Towards new indicators of disadvantage: Deprivation and social exclusion in Australia. Sydney: Social Policy Research Centre, University of New South Wales. (In press)
- Schilling, E. A., Aseltine, R. H., & Gore, S. (2007). Adverse childhood experiences and mental health in young adults: a longitudinal survey. *BioMed*, 10, 1186, 1471-2458-7-30.
- Schilling, E. A., Aseltine, R. H. & Gore, S. (2008). The impact of cumulative childhood adversity on young adult mental health: Measures, models, and interpretations. *Social Science & Medicine*.66, 5, 1140-1151
- Scott KM, Von Korff M, Angermeyer MC, Benjet C, Bruffaerts R, de Girolamo G, Haro JM, Lépine JP, Ormel J, Posada-Villa J, Tachimori H, & Kessler RC (2011). Association of childhood adversities and early-onset mental disorders with adult-onset chronic physical conditions. *Archives of General Psychiatry*, 68, 8, 838-44
- Seery, M. D., Holman, E. A., Silver, R. C. & Cohen, R. (2010). Whatever does not kill us: Cumulative Lifetime Adversity, Vulnerability, and Resilience. *Journal of Personality and Social Psychology* , 99, 6, 1025-1041.

- Shimmin, C. (2009). Mind the (gender) gap: In Canada's new mental health framework. *Canadian Women's Health Network*, 11, 2
- Shmotkin, D., & Litwin, H. (2009). Cumulative adversity and depressive symptoms among older adults in Israel: the differential roles of self-oriented versus other-oriented events of potential trauma. *Soc Psychiat Epidemiol*. 44:989-997
- Slopen, N., Williams, D. R., Fitzmaurice, G. M., & Gilman, S. E. (2011). Sex, stressful life events, and adult onset depression and alcohol dependence: Are men and women equally vulnerable? *Social Science & Medicine*, 73, 4, 615-22.
- Statistics South Africa (2001). Prevalence of diasbility in South Africa (Census). URL: <http://www.statssa.gov.za/census01/html/Disability.pdf>
- Straker, G., Mendelsohn, M., Moosa, F. & Tudin, P. (1996). Violent political contexts and the emotional concerns of township youth. *Child Development*, 67, 46-54.
- Walters,V., McDonough, P. & Strohschein, L. (2002). The influence of work, household structure, and social, personal and material resources on gender differences in health: An analysis of the 1994 Canadian national population health survey. *Social Science & Medicine*, 54, 5, 677-692 .
- Wheaton, B. (1990). Life transitions, role histories, and mental health. *American Sociological Review*, 55, 209-223.
- World Health Organization. (2012). Gender and Women's Health. www.who.int/mental_health/prevention/genderwomen/en/. Retrieved 11/01/2012
- Zuzanek,J., & Mannell, R. (1998). Life-cycle squeeze, time pressure, daily stress, and leisure participation: A Canadian perspective. *Society and Leisure*, 21, 2, 513-544