

The copyright © of this thesis belongs to its rightful author and/or other copyright owner. Copies can be accessed and downloaded for non-commercial or learning purposes without any charge and permission. The thesis cannot be reproduced or quoted as a whole without the permission from its rightful owner. No alteration or changes in format is allowed without permission from its rightful owner.



**INFLUENCE OF CAREGIVING AND PERSONALITY ON THE
STRESS LEVEL OF CAREGIVERS OF CANCER PATIENTS:
ROLE OF SOCIAL SUPPORT AS A MEDIATING VARIABLE**



ANSA QURAT-UL-AIN

UUM
Universiti Utara Malaysia

**DOCTOR OF PHILOSOPHY
UNIVERSITI UTARA MALAYSIA
2017**



Awang Had Salleh
Graduate School
of Arts And Sciences

Universiti Utara Malaysia

PERAKUAN KERJA TESIS / DISERTASI
(Certification of thesis / dissertation)

Kami, yang bertandatangan, memperakukan bahawa
(We, the undersigned, certify that)

ANSA QURAT UL-AIN

calon untuk Ijazah **PhD**
(candidate for the degree of)

telah mengemukakan tesis / disertasi yang bertajuk:
(has presented his/her thesis / dissertation of the following title):

**"INFLUENCE OF CAREGIVING AND PERSONALITY ON THE STRESS LEVEL OF CAREGIVERS
OF CANCER PATIENTS: ROLE OF SOCIAL SUPPORT AS A MEDIATING VARIABLE"**

seperti yang tercatat di muka surat tajuk dan kulit tesis / disertasi.
(as it appears on the title page and front cover of the thesis / dissertation).

Bahawa tesis/disertasi tersebut boleh diterima dari segi bentuk serta kandungan dan meliputi bidang ilmu dengan memuaskan, sebagaimana yang ditunjukkan oleh calon dalam ujian lisan yang diadakan pada : **06 November 2017.**

*That the said thesis/dissertation is acceptable in form and content and displays a satisfactory knowledge of the field of study as demonstrated by the candidate through an oral examination held on:
November 06, 2017.*

Pengerusi Viva:
(Chairman for VIVA)

Assoc. Prof. Dr. Fauziah Baharom

Tandatangan
(Signature)

Pemeriksa Luar:
(External Examiner)

Prof. Dr. Rosnah Ismail

Tandatangan
(Signature)

Pemeriksa Dalam:
(Internal Examiner)

Dr. Daisy Jane C. Orcullo

Tandatangan
(Signature)

Nama Penyelia/Penyelia-penyelia:
(Name of Supervisor/Supervisors)

Prof. Dr. Najib Ahmad Marzuki

Tandatangan
(Signature)

Nama Penyelia/Penyelia-penyelia:
(Name of Supervisor/Supervisors)

Dr. Nabisah Ibrahim

Tandatangan
(Signature)

Tarikh:

(Date) **November 06, 2017**

Permission to Use

In presenting this thesis in fulfilment of the requirements for a postgraduate degree from Universiti Utara Malaysia, I agree that the Universiti Library may make it freely available for inspection. I further agree that permission for the copying of this thesis in any manner, in whole or in part, for scholarly purpose may be granted by my supervisor(s) or, in their absence, by the Dean of Awang Had Salleh Graduate School of Arts and Sciences. It is understood that any copying or publication or use of this thesis or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to Universiti Utara Malaysia for any scholarly use which may be made of any material from my thesis.

Requests for permission to copy or to make other use of materials in this thesis, in whole or in part, should be addressed to:

Dean of Awang Had Salleh Graduate School of Arts and Sciences

UUM College of Arts and Sciences

Universiti Utara Malaysia

06010 UUM Sintok

Abstrak

Penjaga tidak formal merupakan antara sumber yang menyediakan penjagaan kepada individu yang menghadapi penyakit kronik seperti kanser. Peningkatan kadar kanser pediatrik telah menyebabkan peralihan pesakit daripada hospital kepada penjagaan di rumah. Peralihan ini mengakibatkan penjaga pesakit kanser pediatrik menghadapi cabaran dari segi sosial dan emosi yang berterusan sehingga mengakibatkan tekanan berkaitan penjagaan pesakit kanser. Menggunakan Stress Process Theory sebagai kerangka teoritikal asas, kajian ini bertujuan mengukur tahap pembolehubah dan mengkaji korelasi serta kesan aspek penjagaan, dimensi personaliti serta sokongan sosial ke atas tekanan penjaga pesakit kanser di Pakistan. Ia juga bertujuan untuk mengukur kesan pengantara sokongan sosial dan peramal terkuat kepada tekanan penjaga. Sejumlah 286 penjaga keluarga telah dipilih sebagai responden dari lapan hospital yang memberikan rawatan kanser. Teknik persampelan rawak berstrata dan mudah digunakan dalam proses ini. Statistik deskriptif dan inferensi telah dijalankan untuk mencari hubungan antara pemboleh ubah bebas (penjagaan dan personaliti), pemboleh ubah pengantara (sokongan sosial) dan pembolehubah bersandar (tekanan penjaga). Dapatan kajian menunjukkan bahawa tiada sebarang hubungan secara langsung yang signifikan antara aspek penjagaan serta tret-tret personaliti extraversion, neuroticism dan openness dengan tekanan. Manakala, tret personaliti conscientiousness dan agreeableness menunjukkan hubungan yang signifikan dengan tekanan yang dihadapi oleh penjaga. Keputusan kajian juga mendedahkan bahawa sokongan sosial merupakan perantara di antara aspek penjagaan dan tekanan serta tret-tret personaliti extraversion, openness, agreeableness dan tekanan. Dapatan kajian juga mendapati bahawa agreeableness merupakan peramal terkuat kepada tekanan penjaga. Kajian ini memaparkan maklumat baharu kepada para penyelidik dan pengamal untuk mengenal pasti peramal kuat tekanan untuk penjaga di sepanjang proses tekanan. Ia menunjukkan impak yang tersendiri bagi personaliti dan sokongan sosial ke atas tekanan penjaga. Oleh itu, bantuan bagi membangun dan mengimplementasikan intervensi yang efektif bagi memenuhi keperluan penjaga perlu ditingkatkan bagi mengurangkan tahap stres dan menambahbaik kualiti hidup mereka.

Kata Kunci: Kanser, Penjagaan, Personaliti, Sokongan Sosial, Tekanan

Abstract

Informal caregivers have always been a source of providing care to the individuals with chronic illness such as cancer. Increasing rate of pediatric cancer has shifted the patients from hospitals to the home settings. This shift involves the caregivers of pediatric cancer to face ongoing social and emotional challenges that may result in enduring illness and caregiving-related stress. Using Stress Process Theory as the foundation for the theoretical framework, the purpose of this research was to measure the level of variables and to examine the correlation and effects of aspects of caregiving, dimensions of personality and social support on the stress of caregivers of cancer patients in Pakistan. It also aimed to measure mediating effect of social support and the strongest predictor of caregiver's stress. A total of 286 family caregivers were chosen as respondents from eight cancer treatment hospitals. Stratified and simple random sampling technique was utilized for this process. Descriptive and inferential statistics were performed in order to find the relationship between independent variables (caregiving and personality), mediating variable (social support) and dependent variable (caregiver's stress). Findings showed that there were no significant direct relation between aspects of caregiving as well as extraversion, neuroticism and openness personality traits with stress. Whereas, conscientiousness and agreeableness personality traits were significantly related to stress of caregivers. Results also revealed that social support acts as a potential mediator between aspects of caregiving and stress as well as extraversion, openness, agreeableness personality traits and stress. Findings also found that agreeableness was the strongest predictor of stress of caregivers. This study presented new information to researchers and practitioners to identify strongest predictors of stress in caregivers along the stress continuum process. It illustrates the distinctive impact of personality and social support on caregiver's stress. Therefore, helps in developing and implementing effective interventions to fulfill caregiver's needs must be enhanced in order to reduce their stress level and improve their quality of life.

Keywords: Cancer, Caregiving, Personality, Social support, Stress

Acknowledgment

Starting in the name of Allah, the most Beneficent and Merciful. He is the One, who brought me to my knees and made me acknowledge my own strength, and out of that knowledge I had been gone through this long PhD Journey. I praise Allah, the Almighty for providing me this opportunity and granting me the capability to proceed successfully. At times when I doubted my ability to move forward, Allah reminded me that I have not been given any challenge that I cannot overcome.

This dissertation calls an end to my unforgettable journey of PhD. It has been kept on track and been seen through to completion with the guidance and support of numerous people. At the end of my thesis, it is a pleasant task to express my thanks to all those who contributed in many ways to the success of this journey. Thanks doesn't seem sufficient but it is said with appreciation and respect to all people for their encouragement, care, understanding and precious friendship.

At this moment of accomplishment, first of all I pay homage to my esteemed advisor, Professor. Dr. Najib Ahmad Marzuki for his unflinching courage and conviction that inspired me a lot. I am indebted to him for his warm encouragement, thoughtful guidance, critical comments, and spending his precious time to read this thesis and giving his valuable suggestions. I owe gratitude to him for providing me insight on many aspects of my dissertation and making me think outside the box. I doubt that I will ever be able to convey my appreciation fully, but I owe him my eternal gratitude. Indeed, he is the one who just gives a little prod behind and you jump to the skies. I hope to continue working with his noble thoughts.

My humble gratitude and heartfelt thanks goes to my honorable co-advisor, Dr. Nabisah binti Ibrahim. She is such an intelligent, humble and spiritual woman who has been always there to support during the whole period of the study and especially for her guidance during the inevitable ups and downs of my academic issues.

I gratefully acknowledge the funding received towards my PhD from the Universiti Utara Malaysia (UUM). Additionally, I appreciatively acknowledge the support of some people

who have knowingly and unknowingly helped me in the successful completion of this thesis.

Last but not the least, my wonderful family has not been short of amazing. I will remain ever grateful to my lovely parents for bestowing me their unconditional love, teachings and believing me. They are the epitome of kindness, honesty and patience. I have learnt from them the true essence of humanity and service to society. Their prayers and loving nature inspire me to be true to my work and duties. They have always been there to offer words of encouragement to keep me motivated.

I still remember the tears in their eyes every time I leave them to continue my PhD journey. I still remember the pep talk they both gave me the day I left for Malaysia. Although times got challenging, especially with this dissertation, their words resonated with me, and making them proud was my motivation. They told me to be strong and now when I have gone through difficult times and made it through, it will be a life achievement not for me but for my parents. Thank you both for being my motivation, my support, and the best parents you could possibly be. I love you both more than words can describe.

Finally, I heart fully thanks my brothers (Badar and Shams) for encouraging me to follow my dreams. They both are the light to my dark nights. Both of them have been always there to support me financially, emotionally and morally. Especially Shams is not only my brother but best friend and a strong supporter. Without him I would not be able to embark on this journey in first place. I am blessed to have such a loving family on whom I can count on when times are rough. Thanks to them for helping in whatever way they could during this challenging period.

ANSA QURAT-UL-AIN

Table of Contents

Permission to Use.....	i
Abstrak.....	ii
Abstract.....	iii
Acknowledgement	iv
Table of Contents.....	vi
List of Tables.....	xii
List of Figures.....	xiii
CHAPTER ONE: INTRODUCTION AND BACKGROUND OF STUDY.....	1
1.1 Introduction.....	1
1.2 Problem Statement.....	10
1.3 Research Questions.....	15
1.4 Research Objectives.....	15
1.5 Significance of the Study.....	16
1.5.1 Theoretical Significance.....	18
1.5.2 Practical Significance.....	18
1.6 Definition of Concepts.....	19
1.7 Scope of the Study.....	22
1.8 Research Framework.....	23
1.9 Research Hypothesis.....	25
1.10 Organization of the Study.....	27
1.11 Summary.....	27

CHAPTER TWO: LITERATURE REVIEW.....	28
2.1 Introduction.....	28
2.2 The Stress of Caregivers.....	29
2.2.1 The Stress Process Model.....	35
2.2.2 Previous Studies on Stress of Caregivers of Cancer Patients.....	38
2.2.3 Concluding Remarks on Stress of Caregivers.....	46
2.3 Personality of Caregivers.....	47
2.3.1 Five-Factor Model of Personality.....	49
2.3.2 Defining the Five Factors.....	50
2.3.3 Previous Studies on Personality and Stress of Caregivers.....	51
2.3.4 Concluding Remarks on Personality and Stress.....	57
2.4 Social Support as Mediating Variable in act of Caregiving, Personality and Stress of Caregivers.....	58
2.4.1 Model of Social Support.....	62
2.4.2 Previous Studies on Social Support as Mediating Variable.....	62
2.4.3 Concluding remarks on social support as mediating variable.....	67
2.5 Underpinning Theories of Proposed Framework.....	67
2.5.1 Pearlin's Stress Process Theory.....	68
2.5.2 Five Factor Trait Theory.....	70
2.5.3 Uchino's Social Support Theory.....	73
2.6 Concluding Remarks of the Study.....	74
2.7 Summary.....	75
CHAPTER THREE: RESEARCH METHODOLOGY.....	76

3.1 Introduction.....	76
3.2 Purpose of Research.....	76
3.3 Research Design.....	77
3.3.1 Unit of Analysis	79
3.4 Population and Research Location.....	79
3.4.1 Sample Size.....	81
3.4.2 Sampling Technique.....	84
3.5 Research Instruments.....	85
3.5.1 Caregiving.....	86
3.5.2 Personality Traits.....	87
3.5.2.1 Extraversion.....	88
3.5.2.2 Agreeableness.....	88
3.5.2.3 Conscientiousness.....	89
3.5.2.4 Neuroticism.....	90
3.5.2.5 Openness.....	90
3.5.3 Social support.....	91
3.5.4 Stress.....	91
3.6 Instrument Validity.....	93
3.7 Instrument Reliability.....	94
3.8 Pilot Test.....	96
3.8.1 Validity test of Pilot test.....	97
3.8.2 Reliability test of Pilot test.....	97
3.9 Data Collection Procedure.....	98

3.10 Method of Data Analysis.....	100
3.11 Summary	102
CHAPTER FOUR: RESULTS.....	104
4.1 Introduction.....	104
4.2 Response Rate.....	104
4.3 Common Method Bias Test.....	105
4.4 Analysis of Missing Data.....	106
4.5 Descriptive Statistics Analysis.....	107
4.5.1 Profile of Respondents.....	107
4.5.2 Central Tendencies and Measures of Dispersion.....	109
4.6 Multivariate Factor Analysis.....	110
4.6.1 Evaluation of PLS-SEM result.....	110
4.6.2 The Measurement Model.....	111
4.6.3 The Structural Model.....	120
4.6.3.1 Collinearity.....	120
4.6.3.2 Direct relationship.....	121
4.6.3.3 Mediation test.....	125
4.6.3.4 Coefficient of determination.....	130
4.6.4 Assessment of Effect Size.....	131
4.7 Recapitulation of the Study Findings.....	134
4.8 Summary.....	135

CHAPTER FIVE: DISCUSSION, RECOMMENDATION AND CONCLUSION.....	136
5.1 Introduction.....	136
5.2 Discussion of the Findings.....	136
5.2.1 Level of Aspects of Caregiving, Dimensions of Personality, Social Support and Caregiver's Stress.....	137
5.2.2 Correlation of Aspects of Caregiving, Dimensions of Personality and Social Support with Stress of Caregivers.....	141
5.2.2.1 Aspects of Caregiving and Stress.....	142
5.2.2.2 Dimensions of Personality and Stress.....	145
5.2.2.3 Social Support and Stress.....	153
5.2.3 Mediating Effect of Social Support.....	156
5.2.3.1 Social Support as a Mediator between Aspects of Caregiving and Caregiver's Stress.....	158
5.2.3.2 Social Support as a Mediator between Dimensions of Personality and Caregiver's Stress.....	162
5.2.4 Strongest Predictor of Stress.....	169
5.3 Implications	170
5.3.1 Evidence to Support General Stress Process Theory, Five Factor Trait Theory and Uchino's Social Support Theory.....	171
5.3.2 Influence of Caregiving, Personality and Social Support on Stress.....	172
5.3.3 Implication of Measurement Instruments.....	173
5.4 Recommendations.....	175
5.4.1 Better Understanding of Caregiving Phenomenon.....	175

5.4.2 Development of Training Programs.....	176
5.4.3 Availability of Social Resources.....	176
5.4.4 Equitable Sharing of Resources in Community.....	177
5.4.5 Therapeutic Interventions.....	178
5.5 Limitations.....	179
5.6 Future Research Directions.....	181
5.6 Conclusion.....	184
REFERENCES.....	187
APPENDICES.....	218



List of Tables

Table 3.1 Major cancer care hospitals under consideration of this study.....	80
Table 3.2 Formula for calculation of sample size.....	83
Table 3.3 Results of calculation of sample size.....	83
Table 3.4 Variables and instruments selected.....	85
Table 3.5 Reliability of instruments from previous studies.....	95
Table 3.6 Reliability test.....	98
Table 4.1 Response rate of the questionnaires.....	105
Table 4.2 Summary of respondent's demography.....	107
Table 4.3 Central tendencies and dispersion of variables.....	109
Table 4.4 Loadings, reliability and convergent validity values.....	113
Table 4.5 Discriminant validity.....	116
Table 4.6 Factor loadings and cross loadings.....	117
Table 4.7 Collinearity.....	120
Table 4.8 Results of hypothesis testing (Direct relationship).....	123
Table 4.9 Results of mediation test.....	127
Table 4.10 Effect size.....	132
Table 4.11 Result of hypothesis H6.....	132
Table 4.12 Recapitulation of the study findings.....	134

List of Figures

Figure 1.1 Research framework.....	23
Figure 4.1 Measurement model.....	119
Figure 4.2 Structural model showing t-statistics.....	133



CHAPTER ONE

INTRODUCTION

1.1 Introduction

Cancer as a generic term refers to a group of diseases characterized by the uncontrolled growth and spread of abnormal cells affecting multiple parts of the body (International Agency for Research on Cancer [IARC], 2016). One central feature of cancer, according to National Cancer Institute (2015) is the rapid metabolism of abnormal cells that enter into the adjacent parts of the body by growing beyond their usual boundaries and dispersing to other organs initiating a process of metastasizing which is considered as the major cause of death from cancer.

Worldwide, cancer has become a health burden enormously by reaching every region and socio-economic group. Today, about one in every seven deaths is due to cancer (American Cancer Society, 2016). It is the second and third leading cause of mortality in high-income countries and in low-income countries respectively. Cancer figures among the primary causes of mortality and morbidity, presenting around 14 million of new cases and approximately 8.2 million deaths due to cancer in 2012 with the alarming growth of about 21.7 million new cases by the year 2030 and 13.0 million deaths (American Cancer Society, 2016). This shows that the increase in new cases of cancer up to 70 percent in upcoming two decades is expected.

More than half of the cancer cases (60 percent) that are reported annually occur in Asia, Africa and Central and South America. World Cancer Report (2015) mentioned

The contents of
the thesis is for
internal user
only

REFERENCES

- Abdelmoneium, A. O. & Alharahsheh, S. T. (2016). Family home caregivers for old persons in the Arab region: Perceived challenges and policy implications. *Open Journal of Social Sciences*, 4, 151-164.
- Ahmad, K. (2012). Informal caregivers to chronically ill older family members: Caregiver's experiences and problems. *A Research Journal of South Asian Studies*, 27, 101-120.
- Ain, Q. U., Dar, N. Z., Ahmad, A., Munzar, S., & Yousafzai, A. W. (2014). Caregiver stress in stroke survivor: Data from a tertiary care hospital -a cross sectional survey. *BioMed Central Psychology*, 2(1), 49.
- Alderfer, M. A., Cnaan, A., Annunziato, R. A., & Kazak, A. E. (2005). Patterns of posttraumatic stress symptoms in parents of childhood cancer survivors. *Journal of Family Psychology*, 19(3), 430-440.
- Aldrich, N. (2011). CDC seeks to protect health of family caregivers. Retrieved from: http://www.chronicdisease.org/nacdd-initiatives/healthyaging/meeting-records/HA_CIB_HealthofFamilyCaregivers.pdf/view.
- Al-Gamal, E., & Long, T. (2013). Psychological distress and perceived support among Jordanian parents living with a child with cerebral palsy: A cross-sectional study. *Scandinavian Journal of Caring Sciences*, 27(3), 624-631. doi:10.1111/j.1471-6712.2012.01071.x
- Allport, G. W. (1937). *Personality: A psychological interpretation*. New York, NY: Holt, Rinehart & Winston.
- Allred, A., Granger, M., & Hogstrom, T. (2013). The relationship between academic major, personality type, and stress in college students. *Eukaryon*, 9.
- Alves, D. F. S., Guirardello, E. B., & Kurashima, A. Y. (2013). Stress related to care: The impact of childhood cancer on the lives of parents. *Revista Latino-Americana de Enfermagem*, 2, 356-362.
- American Cancer Society (2011). *Breast cancer facts & figures 2011-2012*. Atlanta: American Cancer Society, Inc.
- American Cancer Society. (2016). *Global Cancer Facts & Figures 3rd Edition*. Atlanta: American Cancer Society.

- American Psychological Association [APA]. (2015). Retrieved from <http://www.apa.org/pi/about/publications/caregivers/research/methods/definition.aspx>
- Aneshensel, C., Pearlin, L., Mullan, J., Zarit, S., & Whitlatch, C. (1995). *Profiles in Caregiving, The Unexpected Career*. San Diego: Academic Press.
- Ansa, T., & Mahmood, K. (2014). The relationship of stress and hopelessness among caregivers of life threatening illnesses. *Journal of education and practice*, 5(23), 19-23.
- Ansari, B., & Qureshi, S. S. (2013). Stress and coping in caregivers of cancer patients. *Interdisciplinary Journal of Contemporary Research in Business*, 4(11), 35-39.
- Anthony, J., Erin, G., Julie, R., Mark, H., Francis, S., Klea, B., Joshua, F., & Peter, F. (2012). Does applicant personality influence multiple mini-interview performance and medical school acceptance offers? *Academic Medicine*, 87(9), 1250-1259.
- Arffman & Reeta. (2013). *Social support promoting coping for caregivers caring of people with Alzheimer's disease*. PhD Thesis
- Arisha, Q., Seema, Z. L., & Ghazala, R. (2013). Perceptions of primary caregivers of children with disabilities in two communities from Sindh and Baluchistan, Pakistan. *Disability, CBR and Inclusive Development Journal*, 24(1). doi 10.5463/DCID.v24i1.193
- Asima, M. K., Rizwan, T., Arfeen, F., & Farhana, K. (2015). Quality of life of caregivers and non-caregivers. *Annals of Pakistan Institute of Medical Sciences*, 11(1), 35-39.
- Atherton, O. E., Robins, R. W., Rentfrow, P. J., Lamb, M. E. (2014). Personality correlates of risky health outcomes. *Journal of Research in Personality*, 50, 56-60.
- Axia, G., Tremolada, M., Pillon, M., Zanesco, L., & Carli, M. (2006). Post-traumatic stress symptoms during treatment in mothers of children with leukemia. *Journal of Clinical Oncology*, 24(14), 2216-2217.
- Aziz, Z., Sana, S., Akram, M., & Saeed, A. (2004). Socioeconomic status and breast cancer survival in Pakistani women. *Journal of Pakistan Medical Association*, 54, 448-453.
- Back, M., Stopfer, J., Vazire, S., Gaddis, S., Schmukle, S., Egloff, B., & Gosling, D. (2010). Facebook profiles reflect actual personality, not self-idealization. *Psychological Science*, 21(3), 372-374. doi:10.1177/0956797609360756

- Badar, F. (2013). Cancer registration in Pakistan. *Journal of College of Physicians and Surgeons*, 23(8), 611-612.
- Bagozzi, R. P. (2011). Measurement and meaning in information systems and organizational research: Methodological and philosophical foundations. *MIS Quarterly*, 35(2), 261–292.
- Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1), 74-94.
- Bakker, A. B., Van der Zee, K. I., Lewig, K. A., & Dollard, M. F. (2006). The relationship between the Big Five personality factors and burnout: A study among volunteer counselors. *Journal of Social Psychology*, 146, 31–50.
- Barlett, C. P., & Anderson, C. A. (2012). Direct and indirect relations between the Big five personality traits and aggressive and violent behavior. *Personality and Individual Differences*, 52, 870–875.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182.
- Bartolo, M., Luca, D. D., Serrao, M., Sinforiani, E., Zucchella, C., & Sandrini, G. (2010). Caregiver burden and needs in community neuro-rehabilitation. *Journal of Rehabilitation Medicine*, 42, 818–822.
- Beattie, S., & Lebel, S. (2011). The experience of caregivers of hematological cancer patients undergoing a hematopoietic stem cell transplant: A comprehensive literature review. *Psycho-Oncology*, 20(11), 1137–1150.
- Bevans, M. F., & Sternberg, E. M. (2012). Caregiving burden, stress, and health effects among family caregivers of adult cancer patients. *Journal of the American Medical Association*, 307(4), 398–403.
- Bhurgri, Y., Bhurgri, A., Hassan, S. H., Zaidi, S. H., Rahim, A., & Sankaranarayanan, R. (2000). Cancer incidence in Karachi, Pakistan: First results from Karachi cancer registry. *International Journal of Cancer*, 85(3), 325–329.
- Bhurgri, Y., Bhurgri, A., Nishter, S., Ahmed, A., Usman, A., Pervez, S., Kayani, N.,...Bashir, I. (2006). Pakistan - Country profile of cancer and cancer control 1995-2004. *Journal of the Pakistan Medical Association*, 56(3), 124-130.
- Bhurgri, Y., Pervez, S., Bhurgri, A., Faridi, N., Usman, A.,...Kazi, L. A. (2005). Increasing incidence of non-Hodgkin's lymphoma in Karachi, 1995-2002. *Asian Pacific Journal of Cancer Prevention*, 3, 364-369.

- Bhurgri, Y., Pervez, S., Usman, A., Khan, J. A., Bhurgri, A., & Kasi, Q. (2002). Cancer patterns in Quetta (1998–1999). *Journal of Pakistan Medical Association*, 52(12), 560–565.
- Biegel, D. E., Sales, E., & Schulz, R. (1991). *Family caregiving in chronic illness*. Newbury Park, CA: Sage.
- Billings, A., & Moos, R. (1984). Coping, stress and social resources among adults with unipolar depression. *Journal of Personality and Social Psychology*, 46(4), 877–891.
- Bogg, T., & Roberts, B. W. (2004). Conscientiousness and health-related behaviors: A meta-analysis of the leading behavioral contributors to mortality. *Psychological Bulletin*, 130(6), 887–919.
- Boman, K. K., Kjallander, Y., Eksborg, S., & Becker, J. (2013). Impact of prior traumatic life events on parental early stage reactions following a child's cancer. *Plos One*, 8(3), e57556. doi:10.1371/journal.pone.0057556
- Borneman, T., Bluman, O., Klein, L., Thomas, J., Ferrell, B. (2013) Spiritual care for Jewish patients facing a life threatening illness. *Journal of Palliative Care*, 29(1) 58-62.
- Borneman, T., Sun, V., Williams, A. C., Fujinami, R., Del Ferraro, C., Burhenn, P., Irish, T...., Buga, S. (2015). Support for patients and family caregivers in lung cancer: educational components of an interdisciplinary palliative care intervention. *Journal of Hospice & Palliative Nursing*, 17(4), 309–318. doi: 10.1097/njh.0000000000000165
- Brant, J. M., Beck, S. L., Dudley, W. N., Cobb, P., Pepper, G., & Miaskowski, C. (2011). Symptom trajectories during chemotherapy in outpatients with lung cancer colorectal cancer, or lymphoma. *European Journal of Oncology Nursing*, 15(5), 470–477. doi: 10.1016/j.ejon.2010.12.002.
- Bray, F., Jemal, A., Grey, N., Ferlay, J., & Forman, D. (2012). Global cancer transitions according to the Human Development Index (2008-2030): A population based study. *Lancet Oncology*, 13, 790-801. doi: 10.1016/S1470-2045(12)70211-5
- Bruce, M. (2006). A Systematic and conceptual review of posttraumatic stress in childhood cancer survivors and their parents. *Clinical Psychology Review*, 26(3), 233-256.
- Buss, D. (1995). Evolutionary Psychology: A new paradigm for psychological science. *Psychological Inquiry*, 6(11), 1-30.
- Canadian Caregiver Coalition. (2012). *A caring voice newsletter: Respite*. Ottawa: Author.

- Carbonneau, H., Caron, C., & Desrosiers, J. (2010). Development of a conceptual framework of positive aspects of caregiving in dementia. *Dementia*, 9(3), 327–353. doi:10.1177/1471301210375316
- Carter, J. H., Lyons, K. S., Stewart, B. J., & Archbold, P. G. (2010). Does age make a difference in caregiver strain? Comparison of young versus older caregivers in early-stage Parkinson's disease. *Movement Disorders*, 25, 724–730. doi: 10.1002/mds.22888
- Casale, M., & Wild, L. (2012). The relationship between social support and the health of HIV-positive caregivers of children: A review of the empirical literature, vulnerable children and youth studies. *An International Interdisciplinary Journal for Research, Policy and Care*, 7(3), 260-282. doi: 10.1080/17450128.2012.668232
- Casale, M., Cluver, L., Crankshaw, T., Kuo, C., Lachman, J. M. & Wild, L. G. (2015). Direct and indirect effects of caregiver social support on adolescent psychological outcomes in two South African AIDS-affected communities. *American Journal of Community Psychology*, 55, 336–346. doi:10.1007/s10464-015-9705-3
- Cattell, R. B. (1950). *Personality: A systematic, theoretical and factual study*. New York: McGraw Hill.
- Chambers, S. K., Girgis, A., Occhipinti, S., Hutchison, S., Turner, J., Morris, B., & Dunn, J. (2012). Psychological distress and unmet supportive care needs in cancer patients and carers who contact cancer help lines. *European Journal of Cancer Care*, 21(2), 213–223. doi: 10.1111/j.1365-2354.2011.01288.x
- Chapman, B. P., Hampson, S., & Clarkin, J. (2014). Personality informed interventions for healthy aging: conclusions from a National Institute on Aging Work Group. *Developmental Psychology*, 50(5), 1426–1441. doi: 10.1037/a0034135
- Chapman, B. P., Roberts, B. W., & Duberstein, P. R. (2011). Personality and longevity: Knowns, unknowns, and implications for public health and personalized medicine. *Journal of Aging Research*, 1–24. Retrieved from: <http://dx.doi.org/10.4061/2011/759170>
- Chapman, B. P., Weiss, P., Fiscella, K., Muennig, P., Kawachi, I., & Duberstein, P. (2015). Mortality risk prediction: can comorbidity indices be improved with psychosocial data? *Medical Care*, 53(11), 909–915.
- Children and adolescents cancer statistics. (2016). American Cancer Society.

- Chin, W. W. (2010). How to write up and report PLS analyses. In V. E. Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of Partial Least Squares* (pp. 655-690). Berlin: Springer-Verlag.
- Chin, W. W., Marcolin, B. L., & Newsted, P. R. (2003). A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research*, 14(2), 189–217.
- Chou, C. P., & Bentler, P. M. (1995). Estimates and tests in structural equation modeling. In Rick, H. Hoyle (Ed.), *Structural Equation Modeling: Concepts, Issues, and Applications* (pp. 37-55). Thousand Oaks, CA: Sage Publications.
- Clay, O. J., Grant, J. S., Wadley, V. G., Perkins, M. M., Haley, W. E., & Roth, D. L. (2013). Correlates of health-related quality of life in African American and Caucasian stroke caregivers. *Rehabilitation Psychology*, 58(1), 28–35. doi: 10.1037/a0031726
- Cloninger, C., (2004). *Feeling Good: The Science of Well Being*, Oxford University Press, New York: NY.
- Cohen J. (1988). *Statistical Power Analysis for the Behavioral Science* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Cohen, J. (1969). *Statistical Power Analysis for the Behavioral Sciences* (1sted.). Hillsdale: Lawrence Erlbaum Associates.
- Cohen, S. (2004). Social relationships and health. *American Psychologist*, 59, 676–684.
- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, 98, 310-357.
- Collins, L. G., & Swartz, K. (2011). Caregiver Care. *American Family Physician*, 83(11).
- Compas, B. E., Jaser, S., Dunn, M. J., & Rodriguez, E. M. (2012). Coping with chronic illness in childhood and adolescence. *Annual Review of Clinical Psychology*, 8, 455–480. doi: 10.1146/annurev-clinpsy-032511-143108
- Compas, B., Schetter, C. D., Abdou, C. M., Hobel, C. J., Glynn, L. M., & Sandman, C. A. Familialism, social support and stress: positive implications for pregnant Latinas. *Cultural Diversity and Ethnic Minority Psychology*, 14(2), 155-162. doi: 10.1037/1099-9809.14.2.155
- Connor-Smith, J. K., & Flaschbart, C. (2007). Relations between personality and coping: A meta-analysis. *Journal of Personality and Social Psychology*, 93, 1080–1087.

- Cooper, D. R., & Schindler, P. S. (2008). *Business research method* (10th ed.). Boston: McGraw-Hill Irwin.
- Costa, P. T. Jr., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI): Professional Manual*. Odessa, FL: Psychological Assessment Resources.
- Costa, P. T., & McCrae, R. R. (1995). Domains and facets: Hierarchical personality assessment using the Revised NEO Personality Inventory. *Journal of Personality Assessment*, 64, 21-50.
- Cousino, M. K., & Hazen. (2013). Parenting stress among caregivers of children with chronic illness: A systematic review. *Journal of Pediatric Psychology*, 38(8), 809. doi:10.1093/jpepsy/jst049
- Cramm, J. M., & Nieboer, A. P. (2011). Psychological well-being of caregivers of children with intellectual disabilities: using parental stress as a mediating factor. *Journal of Intellectual Disability Research*, 15(2), 101-113. doi: 10.1177/1744629511410922
- Creswell, J. W. (2012). *Educational research: Planning, conducting and evaluating quantitative and qualitative research* (4th ed.). California: Sage
- Curran-Everett, D., Taylor, S., & Kafadar, K. (1998). Fundamental concepts in statistics: Elucidation and illustration. *Journal of Applied Physiology*, 85, 775–86.
- Dale, W., Mohile, S., Eldatah, B., Trimble, E., Schilsky, R., Cohen, H., Muss, H.,...Hurria, A. (2012). Biological, clinical, and psychosocial correlates at the interface of cancer and aging research. *The Journal of the National Cancer Institute*, 104(8), 581-589. doi: 10.1093/jnci/djs145.
- Dantas, M. S. A., Pontes, J. F., Assis, W. D., & Collet, N. (2012). Family's abilities and difficulties in caring for children with cerebral palsy. *Revista Gaúcha de Enfermagem*, 33(3), 73-80. doi:10.1590/S1983-14472012000300010
- Das, S., Hazra, A., Ray, B., Ghosal, M., & Banerjee, T. (2010). Stroke. *Journal of American Heart Association*, 41, 2965–2968.
- David, J. P., & Suls, J. (1999). Coping efforts in daily life: Role of big five traits and problem appraisals. *Journal of Personality*, 67, 265–294.
- Diamantopoulos, A., & Winklhofer, H. (2001). Index construction with formative indicators: An alternative to scale development. *Journal of Marketing Research*, 38(2), 269-277.

- Djundeva, M., Mills, M., Wittek, R., & Steverink, N. (2015). Receiving instrumental support in late parent-child relationships and parental depression. *Journals of Gerontology Series B Psychological Sciences and Social Sciences*, 70, 981–994. doi:10.1093/geronb/gbu136
- Docherty, S. L., Thaxton, C., Allison, C., Barfield, R. C., & Tamburro, R. F. (2012). The nursing dimension of providing palliative care to children and adolescents with cancer. *Clinical Medicine Insights: Pediatrics*, 6, 75-88. doi: 10.4137/CMPed
- Driscoll, K., Johnson, S., Barker, D., Quittner, A., Deeb, L., Geller, D. E., Gondor, M., & Silverstein, J. H. (2010). Risk factors associated with depressive symptoms in caregivers of children with type 1 diabetes or cystic fibrosis. *Journal of Pediatric Psychology*, 35, 814-822. Retrieved from: <http://dx.doi.org/10.1093/jpepsy/jsp138>
- Drost, E. (2011). Validity and reliability in social science research. *Education Research and Perspectives*, 38(1), 105-123.
- Duggan, K., Friedman, H., McDevitt, E., & Mednick, S. (2014). Personality and healthy sleep: The importance of conscientiousness and neuroticism. *PLoS ONE* 9(3): e90628. doi:10.1371/journal.pone.0090628
- Dumitru, V. M., Cozman, D. (2012). The relationship between stress and personality factors. *Human and Veterinary Medicine*, 4, 34-39. Retrieved from: hvm.bioflux.com.ro
- Dunn, M. J., Rodriguez, E. M., Barnwell, A. S., Grossenbacher, J. C., Vannatta, K., Gerhardt, C. A., & Compas, B. E. (2012). Posttraumatic stress symptoms in parents of children with cancer within six months of diagnosis. *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association*, 31(2), 176–185. doi: 10.1037/a0025545
- Duxbury, L., Higgins, C., & Smart, R. (2011). Elder care and the impact of caregiver strain on the health of employed caregivers. *Work*, 40, 29-40. doi:10.3233/WOR 2011-1204
- Ellis, J. (2012). The impact of lung cancer on patients and carers. *Chronic Respiratory Disease Journal*, 9, 39-47. doi: 10.1177/1479972311433577
- Eloise, H., Tew, S. L., Naismith, Pereira, M., & Simon, J. G. (2013). Quality of life in Parkinson's disease caregivers: The contribution of personality traits. *BioMed Research International*. doi:10.1155/2013/151872
- Ensel, W. M., & Lin, N. (1991). The life stress paradigm and psychological distress. *Journal of Health and Social Behavior*, 32, 321-341.

- Esposito Vinzi, V., Chin, W. W., Henseler, J., & Wang, H. (2010). Editorial: Perspectives on partial least squares. In V. Esposito Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of partial least squares: Concepts, methods and applications* (pp. 1–813). Berlin Heidelberg: Springer.
- Eysenck, H. J. (1991). Dimensions of personality: 16, 5 or 3? Criteria for a taxonomic paradigm. *Personality and individual differences*, 12, 773-790.
- Family Caregiver Alliance. (2011). *Caregivers count too! A toolkit to help practitioners assess the needs of family caregivers*. San Francisco, California: Family Caregiver Alliance.
- Ferguson, E. (2013). Personality is of central concern to understand health: towards a theoretical model for health psychology. *Journal of health psychology review*, 1, 532-570. doi: 10.1080/17437199.2010.547985
- Fernandes, C., Muller, R., & Rodin, G. (2012). Predictors of parenting stress in patients with hematological cancer. *Journal of Psychosocial Oncology*, 30(1), 81-96. doi: 10.1080/07347332.2011.633978
- Ferrell, B. R., Hanson, J., & Grant, M. G. (2012). An overview and evaluation of the oncology family caregiver project: Improving quality of life and quality of care for oncology family caregivers. *Psycho-Oncology*. doi:10.1002/pon.3198
- Ferrell, B., & Baird, P. (2012). Deriving meaning and faith in caregiving. *Seminars in Oncology Nursing*, 28(4), 256-261. doi: 10.1016/j.soncn.2012.09.008.
- Finch, J. F., Baranik, L. E., Liu, Y., & West, S. G. (2012). Physical health, positive and negative affect, and personality: A longitudinal analysis. *Journal of research in psychology*, 46, 537-545. doi: 10.1016/j.jrp.2012.05.013
- Fink, A. (2002). *How to sample in surveys: The survey kit* (7th ed.). California: Sage.
- Fisher, C. (2010). *Researching and writing a dissertation: A guidebook for business students* (3rd ed.). England: Pearson Education Limited
- Fisher, L., & Dickinson, W. P. (2014). Psychology and primary care: New collaborations for providing effective care for adults with chronic health conditions. *American Psychologist*, 69, 355–363. doi: 10.1037/a0036101
- Fiske, D. W. (1949). Consistency of the factorial structures of personality rating from different sources. *Journal of Abnormal Social Psychology*, 44, 329-344.

- Floyd, A., Dedert, E., Ghate, S., Salmon, P., Weissbecker, I., Studts, J. L., & Sephton, S. E. (2011). Depression may mediate the relationship between sense of coherence and quality of life in lung cancer patients. *Journal of Health Psychology, 16*(2), 249–257. doi: 10.1177/1359105310371856
- Folkman, S., & Lazarus, R. S. (1980). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behavior, 21*(30), 219-239.
- Fornell, C., & Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(3), 39-50.
- Friedman, H. S., Kern, M. L., Hampson, S. E., & Duckworth, A. L. (2013). A new life-span approach to conscientiousness and health: Combining the pieces of the causal puzzle. *Developmental Psychology, 10*, 1037/a0030373. doi: 10.1037/a0030373
- Fujinami, R., Sun, V., Zachariah, F., Uman, G., Grant, M., & Ferrell, B. (2014). Family caregivers' distress levels related to quality of life, burden, and preparedness. *Psycho-Oncology*. doi: 10.1002/pon.3562.
- Funder, D. C., (2004). *The personality puzzle* (3rd ed.). New York: W. W. Norton
- Gandhi, P.K., Ried, L. D., Huang, I. C., Kimberlin, C. L., & Kauf, T. L. (2013). Assessment of response shift using two structural equation modeling techniques. *Quality of Life Research, 22*(3), 461–471. Doi: 10.1007/s11136-016-1290-x
- Gariépy, G., Honkaniemi, H., & Quesnel-Vallée, A. (2016). Social support and protection from depression: Systematic review of current findings in Western countries. *The British Journal of Psychiatry, 115*, 169094. doi:10.1192/bjp.bp.115.16909
- Garlo, K., O'Leary, J. R, Van Ness, P-H., & Fried, T. R. (2010). Burden in caregivers of older adults with advanced illness. *Journal of the American Geriatric Society, 58*(12), 2315-2322. doi:10.1111/j.1532-5415.2010.03177.x
- Ghufran, M., Andrades, M., & Nanji, K. (2014). Frequency and severity of depression among mothers of children with cancer: Results from a teaching hospital in Karachi, Pakistan. *British Journal of Medical Practitioners, 7*(1), 701-705.
- Giesbrecht, G. F., Poole, J. C., Letourneau, N., Campbell, T., & Kaplan, B. J. (2013). The buffering effect of social support on hypothalamic-pituitary-adrenal axis function during pregnancy. *Psychosomatic Medicine, 75*(9), 856–62. doi:10.1097/PSY.0000000000000004

- Given, B., & Grant, M. (2012). Studies of caregivers of older patients needed. *Journal of Geriatric Oncology*, 3(4), 295-298. doi:10.1016/j.jgo.2012.07.007
- Given, B., Given, C., & Sherwood, P. (2012). The challenge of quality cancer care for family caregivers. *Seminars in Oncology Nursing*, 28(4), 205-212. doi:10.1016/j.soncn.2012.09.002
- Gjesfjeld, C., Greeno, C., & Kim, K. (2008). A confirmatory analysis of an abbreviated social support instrument: The MOS-SSS. *Research on Social Work Practice*, 10(10), 1-7.
- Gjesfjeld, C., Greeno, C., & Kim, K., & Anderson, C. (2010). Economic stress, social support, and maternal depression: Is social support deterioration occurring? *Social Work Research*, 34(3), 135–143.
- Godwin, K. M., Swank, P. R., Vaeth, P., & Ostwald, S. K. (2013). The longitudinal and dyadic effects of mutuality on perceived stress for stroke survivors and their spousal caregivers. *Aging and Mental Health*, 17(4), 423–431. doi: 10.1080/13607863.2012.756457
- Goldberg, L. R. (1981). Language and individual differences: The search for universals in personality lexicons. In L. Wheeler (Ed.), *Review of personality and social psychology*, (Vol. 2, pp. 141- 165). Beverly Hills, CA: Sage.
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. *The American Psychologist*, 48(1), 26-34.
- Gonzalez-Abraldes, I., Millan-Calenti, J. C., Loorenzo-Lopez, & L., Maseda, A. (2013). The influence of neuroticism and extraversion on the perceived burden of dementia caregivers: An exploratory study. *Archives of Gerontology and Geriatrics*, 56(1), 91-5. doi:10.1016/j.archger.2012.07.011
- Gottlieb, B. H. (2000). Selecting and planning support interventions. In S. Cohen, L. Underwood, & B. H. Gottlieb (Eds.), *Social support measurement and interventions: A guide for health and social scientists* (pp. 195–220). New York, NY: Oxford University Press.
- Gotz, O., Liehr-Gobbers, K., & Krafft, M. (2010). Evaluation of structural equation models using the partial least squares (PLS) approach. *Handbook of partial least squares* (pp. 691–711). Springer.
- Grabel, E., & Adabbo, R. (2011). Perceived burden of informal caregivers of a chronically ill older family member: Burden in the context of the Transactional Stress Model of Lazarus and Folkman. *GeroPsych*, 24(3), 143-154.

- Grant, M., & Ferrell, B. R. (2012). Oncology family caregivers: Introduction. *Seminars in Oncology Nursing*, 28(4), 203-204. doi:10.1013/j.soncn.2012.09.001
- Grant, M., Sun, V., Fujinami, R., Sidhu, R., Otis-Green, S., Juarez, G., Klein, L., & Ferrell, B. (2013). Family caregiver burden, skills preparedness, and quality of life in non-small cell lung cancer. *Oncology Nursing forum*, 40(4), 337-346. doi: 10.1188/13.ONF
- Greener, S. (2008). *Business research methods*. BookBoon. Retrieved from: <http://www.bookboon.com>
- Greening, L., & Stoppelbein, L. (2007). Brief report: Pediatric cancer, parental coping style and risk for depressive, posttraumatic stress and anxiety symptoms. *Journal of Pediatric Psychology*, 32, 1272-1277.
- Grover, S., & Dutt, A. (2011). Perceived burden and quality of life of caregivers in obsessive- compulsive disorder. *Psychiatry and Clinical Neurosciences*, 65, 416–422. doi:10.1111/j.1440-1819.2011.02240.x
- Gujarati, D. N. (2010). *Essentials of econometrics*. McGraw-Hill
- Gurven, M., von Rueden, C., Massenkoff, M., Kaplan, H., & Vie, M. L. (2013). How Universal Is the Big Five? Testing the Five-Factor Model of Personality Variation among Forager–Farmers in the Bolivian Amazon. *Journal of Personality and Social Psychology*, 104(2), 354–370. doi: 10.1037/a0030841
- Guyard, A., Fauconnier, J., Mermet, M. A., & Cans, C. (2011). Impact on parents of cerebral palsy in children: A literature review. *Archives de Pédiatrie*, 18(2), 204-214. doi:10.1016/j.arcped.2010.11.008
- Haenlein, M., & Kaplan, A. M. (2004). A beginner's guide to partial least squares analysis. *Understanding Statistics*, 3(4), 283–297.
- Haenlein, M., & Kaplan, A. M. (2011). The influence of observed heterogeneity on path coefficient significance: Technology acceptance within the marketing discipline. *The Journal of Marketing Theory and Practice*, 19(2), 153–168.
- Hahn, E., Gottschling, J., & Spinath, F. (2012). Short measurements of personality-validity and reliability of the GSOEP Big Five Inventory (BFI-S). *Journal of Research in Personality*, 46(3), 355-359.
- Hair Jr., J. F., Black, J. W., Babin, B. J., & Anderson, E. R. (2010). *Multivariate data analysis* (7th ed.). Englewood Cliffs: Prentice Hall.

- Hair Jr., J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–12. doi: 10.1108/EBR-10-2013-0128
- Hair, J. F., Gabriel, M. L., & Patel, V. K. (2014). AMOS Covariance-Based Structural Equation Modeling (CB-SEM): Guidelines on its Application as a Marketing Research Tool. *Revista Brasileira de Marketing*, 13(02), 44-55.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2013). *A primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks: Sage.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139–151.
- Hair, J. F., Sarstedt, M., Pieper, T. M., & Ringle, C. M. (2012). The use of partial least squares structural equation modeling in strategic management research: A review of past practices and recommendations for future applications. *Long Range Planning*, 45(5-6), 320–340.
- Hakala, H. (2013). Entrepreneurial and learning orientation: Effects on growth and profitability in the software sector. *Baltic Journal of Management*, 8(1), 102–118.
- Hampson, S. E. (2012). Personality processes: Mechanisms by which personality traits “get outside the skin.” *Annual Review of Psychology*, 63, 315–339.
- Hampson, S. E., Edmonds, G. W., Goldberg, L. R., Dubanoski, J. P., & Hillier, T. A. (2015). A life-span behavioral mechanism relating childhood conscientiousness to adult clinical health. *Health Psychology*, 34, 887–895. doi: 10.1037/hea0000209
- Hanif, M., Zaidi, P., Kamal, S., & Hameed, A. (2009). Institution-based cancer incidence in a local population in Pakistan: Nine year data analysis. *Asian Pacific Journal of Cancer Prevention*, 10, 227-230.
- Hanson, J., Ferrell, B., & Grant, M. (2013). Website and resources for cancer family caregivers. *Journal of the Advanced Practitioner in Oncology*, 4(4), 269-272.
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, 76(4), 408–420.
- Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper]. Retrieved from <http://www.afhayes.com/public/process2012.pdf>

- Hayes, A. F., & Preacher, K. J. (2010). Quantifying and testing indirect effects in simple mediation models when the constituent paths are nonlinear. *Multivariate Behavioral Research*, 45, 627–660.
- Henseler, J., & Sarstedt, M. (2013). Goodness-of-fit indices for partial least squares path modeling. *Computational Statistics*, 28(2), 565–580.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of Partial Least Squares Path Modeling in International Marketing. *Advances in International Marketing*, 20(1), 277-319.
- Hermanns, M., & Mastel-Smith, B. (2012). Caregiving: A qualitative concept analysis. *The Qualitative Report*, 17(75), 1-18.
- Hexem, K. R., Mollen, C. J., Carroll, K., Lanctot, D. A., & Feudtner, C. (2011). How parents of children receiving pediatric palliative care use religion, spirituality, or life philosophy in tough times. *Journal of Palliative Medicine*, 14(1), 39–44. doi: 10.1089/jpm.2010.0256
- Hill, P. L., Weston, S. J., & Jackson, J. J. (2014). Connecting social environment variables to the onset of major specific health outcomes. *Psychology & Health*, 29(7), 753-767. doi: 10.1080/08870446.2014.884221
- Ho, B., Friedland, J., & Rappolt, S., et al. (2003). Caregiving for relatives with Alzheimer's disease: Feelings of Chinese-Canadian women. *Journal of Aging Studies*, 17, 301-321.
- Hoerger, M., Coletta, M., Sörensen, S., Chapman, B., Kaukeinen, K., XinTu., & Duberstein, P. (2016). Personality and Perceived Health in Spousal Caregivers of Patients with Lung Cancer: The Roles of Neuroticism and Extraversion. *Journal of Aging Research*, 7. doi:10.1155/2016/5659793
- Hogan R. (1991). Personality and personality measurement. In M. D. Dunnette, & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (2nd ed., pp. 327–396). Palo Alto, CA: Consulting Psychologists Press.
- Holt-Lunstad, J., Smith, T., & Layton, J. (2010). Social Relationships and Mortality Risk: A Meta- Analytic Review. *PLoS Medicine*, 7(7), e1000316. doi: 10.1371/journal.pmed.1000316
- House, J. S., Landis, K. R., & Umberson, D. (1988). Social relationships and health. *Science*, 241(4865), 540-545.
- Howlader, N., Noone, A., Krapcho, M., Neyman, N., Aminou, R., Waldron, W.,...Edwards, B. (2013). *SEER Cancer Statistics Review, 1975-2010*. Bethesda, MD: National Cancer Institute.

- Hoyle, R. H., & Robinson, J. C. (2004). Mediated and moderated effects in social psychological research: Measurement design and analysis issues. In C. Sansone, C. C. Morf, & A. T. Panter (Eds), *The Sage handbook of methods in social psychology* (pp. 213–233). Thousand Oaks, CA: Sage
- Huang, J. P., Xia, W., Sun, C. H., Zhang, H. Y., Wu, L. J. (2009). Psychological distress and its correlates in Chinese adolescents. *Australian and New Zealand Journal of Psychiatry*, 43, 674–680.
- Hudson., Roberts., & Lodi-Smith. (2012). Social investment in work reliably predicts change in conscientiousness and agreeableness: A direct replication and extension of Hudson, Roberts, and Lodi-Smith. *Journal of Research in Personality*, 60, 12-23. doi:10.1016/j.jrp.2015.09.004
- International Agency for Research on Cancer [IARC]. (2016). *Agents Classified by the IARC Monographs*, 1, 114.
- Iqbal, A., & Siddiqui, K. S. (2002). Depression among parents of children with acute lymphoblastic leukemia. *Journal of Ayub Medical College Abbottabad*, 14, 6-9.
- Jarvis, C. B., MacKenzie, S. B., & Podsakoff, P. M. (2003). A critical review of construct indicators and measurement model misspecification in marketing and consumer research. *Journal of Consumer Research*, 30(3), 199-218.
- John, O. P., & Srivastava, S. (1999). The Big-Five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin, & O. P. John (Eds.), *Handbook of personality: Theory and research* (Vol. 2, pp. 102–138). New York: Guilford Press.
- John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm shift to the integrative Big Five trait taxonomy: History, measurement, and conceptual issues. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (pp. 114-158). New York, NY: Guilford Press.
- Juarez, G., Branin, J., Rosales, M. (2014). The cancer caregiving experience of caregivers of Mexican Ancestry. *Hispanic Health Care International*, 12(3), 120-129. doi:10.1891/1540-4153.12.3.120
- Jurbergs, N., Long, A., Ticonia, L., & Phipps, S. (2009). Symptoms of posttraumatic stress in parents of children with cancer: Are they elevated relative to parents of healthy children? *Journal of Pediatric Psychology*, 34, 4–13.
- Kelly, D. H., McGinley, J. L., Huxham, F., Menz, H. B., Watts, J., Iansek, R.,...Morris, M. (2012). Health-related quality of life and strain in

caregivers of Australians with Parkinson's disease: An observational study. *BMC Neurology*, 12(57). doi: 10.1186/1471-2377-12-57

Kerenhappachu, M. S., & Sridevi, G. (2014). Care giver's burden and perceived social support in mothers of children with mental retardation. *International Journal of Scientific and Research Publications*, 4(4), 1-6. doi: 10.1007/s00467-013-2532-6

Khamarko, K., & Myers, J. (2013). *The influence of social support on the lives of HIV-infected individuals in low -and middle income countries*. World Health organization.

Kilis-Pstrusinska, K., Wasilewska, A., Medynska, A., Grenda, R., Kluska-Jozwaik., Leszczynska, B.,...Zwolinska, D. (2013). Psychosocial aspects of children and families of children treated with automated peritoneal dialysis. *Journal of Pediatric Nephrology*, 28(11), 2157-2167. doi: 10.1007/s00467-013-2532-6

Kim, J. H., & Knight, B. G. (2008). Effects of caregiver status, coping styles, and social support on the physical health of Korean American caregivers. *Gerontologist*, 48, 287–299. doi: 10.1093/geront/48.3.287

Kim, M. (2012). *Relationship between types of social support, coping strategies and psychological distress in individuals living with congenital heart disease*. PhD Thesis.

King, H. R., Jackson, J. J., Morrow-Howell, N., & Oltmanns, T. F. (2014). Personality accounts for the connection between volunteering and health. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 70, 691–697. doi: 10.1093/geronb/gbu012

Knight, B. G., & Sayegh, P. (2010). Cultural values and caregiving: The updated sociocultural stress and coping model. *Journal of Gerontology: Psychological Sciences*, 65(1), 5–13. doi: 10.1093/geronb/gbp096

Kohler, B. A., Sherman, R. L., Howlader, N., Jemal, A., Ryerson, A. B., Henry, K. A.,...Penberthy, L. (2015). Annual report to the nation on the status of cancer, 1975-2011, featuring incidence of breast cancer subtypes by race/ethnicity, poverty, and state. *Journal of National Cancer Institute*, 107(6). doi: 10.1093/jnci/djv048

Kohlsdorf, Marina., Costa Junior., & Luiz, A. (2012). Psychosocial impact of pediatric cancer on parents: a literature review. *Paidéia (Ribeirão Preto)*, 22(51), 119-129. doi: 10.1590/S0103-863X2012000100014

Kong, F., & You, X. (2013). Loneliness and self-esteem as mediators between social support and life satisfaction in late adolescence. *Social Indicators Research*, 110(1), 271–279.

- Kong, F., Zhao, J., & You, X. (2013). Self-esteem as mediator and moderator of the relationship between social support and subjective well-being among Chinese university students. *Social Indicators Research*, 112(1), 151–161. doi:10.1111/j.1099-0860.1997.tb00003.x
- Mayall, B. (2000).
- Krejcie, R. V., and Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30, 607-610.
- Krok, D. (2014). Religiousness and social support as predictive factors for mental health outcomes. *Archives of Psychiatry and Psychotherapy*, 2, 65-76.
- Kruithof, W. J., Visser-Meily, J. M. A., & Post, M. W. M. (2012). Positive caregiving experiences are associated with life satisfaction in spouses of stroke survivors. *Journal of Stroke and Cerebrovascular Disease*, 21, 801–807. doi: 10.1016/j.jstrokecerebrovasdis.2011.04.011
- Kudubes, A. A., & Bektas, M., & Ugur, O. (2014). Symptom frequency of children with cancer and parent quality of life in Turkey. *Asian Pacific Journal of Cancer Prevention*, 15, 3487-3493. doi: 10.7314/APJCP.2014.15.8.3487
- Kumar, R. (2011). *Research methodology: A step-by-step guide for beginners*. Los Angeles, CA: Sage.
- Kuo, C., Fitzgerald, J., Operario, D., & Casale, M. (2012). Social support disparities for caregivers of AIDS-orphaned children in South Africa. *Journal of Community Psychology*, 40(6), 631–644. doi:10.1002/jcop.20521
- Lai, D. (2012). Effect of financial costs on caregiving burden of family caregivers of older adults. *Sage Open*, 2.
- Lahey, B., & Orehek, E. (2011). Relational regulation theory: A new approach to explain the link between perceived social support and mental health. *Psychological review*, 118(3), 482-495. doi: 10.1037/a0023477
- Larsen, R. J., & Buss, D. M. (2005). *Personality psychology: Domains of knowledge about human nature* (2nd ed.). New York: McGraw Hill.
- Lau, K. M., Phil, M., & Au. A. (2011). Correlates of informal caregiver distress in Parkinson's disease: A Meta-analysis. *Clinical Gerontologist*, 34, 117-131. doi:10.1080/07317115.2011.539521
- Lautenschlager, N. T., Kirz, A. F., Lois, S., & Cramer, B. (2013). Personality of mental health caregivers. *Current Opinion in Psychiatry*, 26(1), 97-101. doi:10.1097/YCO.0b013e32835997b3.

- Lazaridès, A., Bélanger, C., & Sabourin, S. (2010). Personality as moderator of the relationship between communication and couple stability. *Europe's Journal of Psychology*, 6(2), 11- 31. doi: 10.5964/ejop.v6i2.182
- Lazarus, R., & Folkman, S. (1984). *Stress, appraisals and coping*. New York: Springer Publishing Company
- Lench, H.C. (2011). Personality and health outcomes: making positive expectations a reality. *Journal of Happiness Studies*, 12(3), 493-507. doi:10.1007/s10902-010-9212-z
- Lima, M. B. S., Afonso, T., & Silva, S. C. (2015). Primary caregivers of autistic children in the Amazon. *Apae Ciência*, 2(1), 21-36. Retrieved from <http://apaeciencia.org.br/index.php/revista/article/view/62/30>
- Lima, M. B. S., Cardoso, V. S., & Silva, S. S. C. (2016). Parental stress and social support of caregivers of cerebral palsy children. *Paidéia (Ribeirão Preto)*, 26(64), 207-214. doi:10.1590/1982-43272664201608
- Lindahl-Norberg, A., Lindblad, F., & Boman, K. K. (2006). Support seeking, perceived support, and anxiety in mothers and fathers after children's cancer treatment. *Psycho-Oncology*, 15(4), 335–343.
- Lisa, L. O. (2013). The Modified Caregiver Strain Index (MCSI). *Hartford Institute for Geriatric Nursing*, 14.
- Litzelman, K., Catrine, K., Gangnon, R., & Witt, W. P. (2011). Quality of life among parents of children with cancer or brain tumors: The impact of child characteristics and parental psychosocial factors. *Quality of Life Research*, 20, 1261-1269.
- Lockenhoff, C. E., & Carstensen, L. (2004). Socio-emotional selectivity theory, aging and health: the increasingly delicate balance between regulating emotions and making tough choices. *Journal of Personality*, 72(6), 1395–1424.
- Lockenhoff, C. E., Duberstein, P. R., Friedman, B., & Costa Jr., P. T. (2011). Five-factor personality traits and subjective health among caregivers: the role of caregiver strain and self-efficacy. *Psychology and Aging*, 26(3), 592–604. doi:10.1037/a0022209
- Lockwood, C. M., & MacKinnon, D. P. (1998). *Bootstrapping the standard error of the mediated effect*. In 23rd annual meeting of SAS Users Group International (pp. 997–1002). Cary: NC
- Long, K. A., & Marsland, A. L. (2011). Family adjustment to childhood cancer: A systematic review. *Clinical Child and Family Psychology Review*, 14, 57–88. doi: 10.1007/s10567-010-0082-z

- Lopez, M., & Cooper, L. (2011). *Social Support Measures Review. Final report.* National center for Latino child and Family Research.
- Lou, V. W. (2006). Factors related to the psychological well-being of parents of children with leukemia in China. *Journal of Psychosocial Oncology*, 24(3), 75–88.
- Lowry, P. B., & Gaskin, J. (2014). Partial Least Squares (PLS) Structural Equation Modeling (SEM) for building and testing behavioral causal theory: When to choose it and how to use it. *IEEE Transactions on Professional Communication*, 57(2), 123–146.
- Lund, L., Ross, L., Peterson, M. A., & Groenvold, M. (2015). The interaction between informal cancer caregivers and health care professionals: A survey of caregivers' experiences of problems and unmet needs. *Support Care Cancer*, 23(6), 1719-1733. doi:10.1007/s00520-014-2529-0
- MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. *Annual Review of Psychology*, 58, 593–614.
- MacKinnon, D. P., Fritz, M. S., Williams, J., & Lockwood, C. M. (2007). Distribution of the product confidence limits for the indirect effect: program PRODCLIN. *Behavior Research Methods*, 39(3), 384–389.
- Majerovitz, S. D. (2001). Formal versus informal support: Stress buffering among dementia caregivers. *Journal of Mental Health and Aging*, 7, 413-423.
- Majid, S., & Abidi, M. (2013). Quality of life and coping styles of care-givers of patients suffering from thalassemia major. *International Journal of Medical and Pharmaceutical Sciences*, 3(10), 41-48.
- Marcoulides, G. A., & Saunders, C. (2006). PLS: A Silver Bullet? *MIS Quarterly*, 30(2), 3-5.
- Marcoulides, G., Chin, W., & Saunders, C. (2009). A critical look at partial least squares modeling. *MIS Quarterly*, 33(1), 171–175
- Marcusen, C. (2010). Information and communication needs of individuals living with advanced cancer. *Seminars in Oncology Nursing*, 26, 151-156. doi:10.1016/j.soncn.2010.05.006
- Marnie, B. M. (2008). *The role of personality following the September 11th terrorist attacks: big five trait combinations and interactions in explaining distress and coping.* PhD Thesis.
- Marsland, A. L., Long, K. A., Howe, C., Thompson, A. L., Tersak, J., & Ewing, L. J. (2013). A pilot trial of a stress management intervention for primary caregivers of children newly diagnosed with cancer: Preliminary evidence

that perceived social support moderates the psychosocial benefit of intervention. *Journal of Pediatric Psychology*, 38(4), 449–461. doi: 10.1093/jpepsy/jss173

Martin, A. C., & Keats, M. R. (2014). The impact of yoga on quality of life and psychological distress in caregivers for patients with cancer. *Oncology Nursing Forum*, 41(3), 257-264. doi: 10.1188/14.ONF

Masood, J., Beenish, Q., Zubia, M., & Shaukat, A. J. (2010). Disclosure of cancer diagnosis: Pakistani patients' perspective. *Middle East Journal of Cancer*, 1(2), 89–94.

Maulik, P. K., Eaton, W. W., Bradshaw, C. P (2011). The effect of social networks and social support on mental health services use, following a life event, among the Baltimore Epidemiologic Catchment Area cohort. *Journal of Behavioral Health Services & Research*, 38(1), 29–50. doi: 10.1007/s11414-009-9205-z

McCarthy, B. (2011). Family members of patients with cancer: What they know, how they know and what they want to know. *European Journal of Oncology Nursing*, 15, 428-441. doi: 10.1016/j.ejon.2010.10.009

McCrae, R. R. & John, O. P. (1992). An Introduction to the Five-Factor Model and its applications. *Journal of Personality*, 60, 175-215. doi: 10.1111/j.1467-6494.1992.tb00970.x

McCrae, R. R. (2005). Personality structure. In B. A. Winstead, V. J. Derlega, & W. H. Jones (Eds.), *Personality: Contemporary theory and research* (pp. 192-216). Belmont, CA: Thomson Wadsworth.

McCrae, R. R., & Costa, P.T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, 52, 81-90.

McCrae, R. R., & Costa, PT. (2003). *Personality in adulthood*. New York, NY: Guilford.

Meecharoen, W., Northouse, L. L., Sirapo-ngam, Y., & Monkong, S. (2013). Family caregivers for cancer patients in Thailand: An integrative review. *Sage Open*, 1-10. doi:10.1177/2158244013500280

Melo, G., Maroco, J., & de Mendonça, A. (2011). Influence of personality on caregiver's burden, depression and distress related to the BPSD. *International Journal of Geriatric Psychiatry*, 26(12), 1275-1282. doi:10.1002/gps.2677

- Mitnick, S., Leffler, C., & Hood, V. L. (2010). Family caregivers, patients and physicians: ethical guidance to optimize relationships. *Journal of General Internal Medicine*. doi 10.1007/s11606-0091206-3.
- Molassiotis, A., Wilson, B., Blair, S., Howe, T., & Cavet, J. (2011). Living with multiple myeloma: experiences of patients and their informal caregivers. *Supportive Care in Cancer*, 19, 101–111. doi: 10.1007/s00520-009-0793-1
- Monat, A., & Lazarus, R. S. (1991). Stress and coping--some current issues and controversies. In A. Monat, & R. S. Lazarus (Eds.), *Stress and Coping* (pp. 1-15). New York, NY: Columbia University Press.
- Munsell, P. E., Kilmer, R. P., Cook, J. R., & Reeve, C. L. (2012). The effects of caregiver social connections on caregiver, child and family well-being. *American Journal of Orthopsychiatry*, 82, 137-145.
- Murphy, S. L., Xu, J., & Kochanek, K. D. (2013). *Deaths: Final Data for 2010. National Vital Statistics Reports*. Hyattsville, MD: National Center for Health Statistics, 61(4).
- Nakaya, N., Bidstrup, P. E., Saito-Nakaya, K., Frederiksen, K., Koskenvuo, M., Pukkala, E.,...Johansen, C. (2010). Personality traits and cancer risk and survival based on Finnish and Swedish registry data. *American Journal of Epidemiology*, 172, 377–385. doi: 10.1093/aje/kwq046
- Narayan, S. M., Varghese, M., Hepburn, K., Lewis, M., Paul, I., & Bhimani, R. (2015). Caregiving experiences of family members of persons with dementia in South India. *American Journal of Alzheimer's disease and other Dementias*, 30(5), 508-516. doi: 10.1177/15333175145675
- National Cancer Institute, 2015
- Navneet Kaur. (2014). Caregiving burden and social support among caregivers of schizophrenic patients. *Delhi psychiatry journal*, 17(2), 337-342.
- Nazish, I., Riaz, M., Haider, I. I., Lubna, A., Amna, O., & Ahsan. (2010). Caring for the caregivers: Mental health, family burden and quality of life of caregivers of patients with mental illness. *Journal of Pakistan psychiatric society*, 7(1).
- Neuman, G. A., Wagner, S. H., & Christiansen, N. D. (1999). The relationship between work team personality composition and the job performance of teams. *Group and Organization Management*, 24, 28-45.
- Norman, W. T. (1967). Toward an adequate taxonomy of personality attributes: Replicated factor structure in peer nomination personality ratings. *Journal of Abnormal and Social Psychology*, 66, 574-583.

- Northouse, L., Katapol, M. C., Schafenacker, A., & Weiss, D. (2012). The impact of caregiving on the psychological well-being of family caregivers and cancer patients. *Seminars in Oncology Nursing*, 20(4), 236-245.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.
- O'Connor, N. (2015). *The correlation among personality characteristics, stress, and coping of caregivers of individuals with intellectual and developmental disabilities*. Walden University: Scholar Works.
- Okoye, U. O., & Asa, S. S. (2011). Caregiving and stress: Experience of people taking care of elderly relations in South-eastern Nigeria. *Arts and Social Sciences Journal; ASSJ*-29, 1-9.
- Ozer, D. J., & Benet-Martinez, V. B. (2006). Personality and the prediction of consequential outcomes. *Annual Review of Psychology*, 57, 401–421
- Pallant, J. (2010). *SPSS Survival Manual: A Step by Step Guide to Data Analysis using SPSS* (4th ed.). Maidenhead: Open University Press.
- Palompon, D. R., Ente, R., & Bantugan, J. (2011). Predictors of depression among institutionalized elderly clients. *Asian Journal of Health Social Qualitative Section*, 1(1), 128-142.
- Palos, G. R., Mendoza, T. R., Liao, K. P., Anderson, K. O., Garcia-Gonzalez, A., Hahn, K.,...Cleeland, C. S. (2011). Caregiver symptom burden: The risk of caring for an underserved patient with advanced cancer. *Cancer*, 117(5), 1070-1079. doi:10.1002/cncr.25695
- Park, N. S., Jang, Y., Lee, B. S., Ko, J. E., Chiriboga, A. (2014). The impact of social resources on depressive symptoms in racially and ethnically diverse older adults: variations by groups with differing health risks. *Research on Aging*, 36, 322–342. doi: 10.1177/0164027513486991
- Park, S., Bae, J., Nam, B. H., & Yoo, K. Y. (2008). Aetiology of cancer in Asia. *Asian Pacific Journal of Cancer Prevention*, 9, 371-380.
- Patil, B., Shetty, N., Subramanyam, A., Shah, H, Kamath, R., & Pinto, C. (2014). Study of perceived and received social support in elderly depressed patients. *Journal of Geriatric Mental Health*, 1, 28-31.
- Patino-Fernandez, A. M., Pai, A. L., Alderfer, M., Hwang, W. T., Reilly, A., & Kazak, A. E. (2008). Acute stress in parents of children newly diagnosed with cancer. *Pediatric Blood and Cancer*, 50, 289–292.
- Pearlin, L. I., & Schooler, C. (1978). The structure of coping. *Journal of Health and Social Behaviors*, 19(2), 2-12.

- Pearlin, L. I., & Skaff, M. M. (1996). Stress and the life course: A paradigmatic alliance. *The Gerontologist*, 36, 229–247.
- Pearlin, L. I., Aneshensel, C. S., & LeBlanc, A. J. (1997). The forms and mechanisms of stress proliferation: the case of AIDS caregivers. *Journal of Health and Social Behavior*, 38(3), 223-236.
- Pearlin, L. I., Mullan, J. T., Semple, S. J., & Skaff, M. M. (1990). Caregiving and the stress process: An overview of concepts and their measures. *Gerontologist*, 30, 583-595.
- Pearlin, L. I., Sample, S., & Turner, H. A. (1988). Stress of AIDS caregiving. A preliminary overview of the issues. *Death Studies*, 12, 501-517.
- Penley, J. A., & Tomaka, J. (2002). Associations among the Big five, emotional responses, and coping with acute stress. *Personality and Individual Differences*, 32, 1215–1228.
- Perkins, M., Howard, V.J., Wadley, V.G., Crowe, M., Safford, M.M., Haley, W.E.,...Roth, D.L. (2012). Caregiving strain and all-cause mortality: evidence from the Regards study. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*. doi:10.1093/geronb/gbs084
- Perz, J., Ussher, J. M., Butow, P., & Wain, G. (2011). Gender differences in cancer carer psychological distress: An analysis of moderators and mediators. *European Journal of Cancer Care*, 20, 610-619. doi:10.1111/j.1365-2354.2011.01257x
- Pettit, J. W., Roberts, R. E., Lewinsohn, P. M., Seeley, J. R., & Yaroslavsky, I. (2011). Developmental relations between perceived social support and depressive symptoms through emerging adulthood: Blood is thicker than water. *Journal of Family Psychology*, 25(1). 127-136. doi: 10.1037/a0022320
- Pfeifer, L. I., Silva, D. B. R., Lopes, P. B., Matsukura, T. S., Santos, J. L. F., & Pinto, M. P. P. (2014). Social support provided to caregivers of children with cerebral palsy. *Child: Care, Health and Development*, 40(3), 363-369. doi:10.1111/cch.12077
- Pi-Ming, Yeh., Mary, E., Wierenga., SU-Chuan, Yuan. (2009). Influences of psychological well-being, quality of caregiver-patient relationship, and family support on the health of family caregivers for cancer patients in Taiwan. *Asian Nursing research*, 3(4), 154-166.
- Pinquart, M., & Sorensen, S. (2011). Spouses, adult children and children-in-law as caregivers of older adults: A meta-analytic comparison. *Psychology and Aging*, 26(1), 1-14. doi:1037/a0021863

- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *The Journal of Applied Psychology*, 88(5), 879–903.
- Polita, N. B., & Tacla, M. T. G. M. (2014). Network and social support to families of children with cerebral palsy. *Escola Anna Nery*, 18(1), 75-81. doi:10.5935/1414-8145.20140011
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891.
- Public Health Agency of Canada. (2013, October). *Core Competencies for Public Health* – Draft 2.
- Punjab Cancer Registry (2016).
- Quinn, C., Clare, L., & Woods, R. T. (2015). Balancing needs: The role of motivations, meanings and relationship dynamics in the experience of informal caregivers of people with dementia. *Dementia*, 14(2), 220-237. doi: 10.1177/1471301213495863
- Quinn, C., Clare, L., McGuinness, T., & Woods, R. T. (2012). The impact of relationships, motivations, and meanings on dementia caregiving outcomes. *International Psycho-geriatrics*, 24, 1816–1826. doi: 10.1017/S1041610212000889
- Rafiyah, I., Suttharangsee, W., Sangchan, H. (2011). Social support and coping of Indonesian family caregivers caring for persons with schizophrenia. *Nurse Media Journal of Nursing*, 1(2), 159–169.
- Raju, R. S., Kaur, P., & Pandian, J. D. (2012). Psychosocial problems, quality of life, and caregiver burden among stroke caregivers in India. *International Journal of Stroke*, 7(1), 100-101. doi:10.1111/j.1747-4949.2011.00721.x
- Ramayah, T., Lee, J. W. C., & In, J. B. C. (2011). Network collaboration and performance in the tourism sector. *Service Business*, 5(4), 411–428
- Reich, W., Lounsbury, D., Zaid-Muhammad, S., & Rapkin, B. (2010). Forms of social support and their relationships to mental health in HIV-positive persons. *Psychology, Health & Medicine*, 15(2), 135–145.
- Reinartz, W., Haenlein, M., & Henseler, J. (2009). An empirical comparison of the efficacy of covariance-based and variance-based SEM. *International Journal of Research in Marketing*, 26(4), 332–344.

- Reynolds, C. R., & Livingston, R. B. (2012). *Mastering modern psychological testing: Theory and methods*. Boston, MA: Pearson.
- Ribeiro, M. F. M., Sousa, A. L. L., Vandenberghe, L., & Porto, C. C. (2014). Parental stress in mothers of children and adolescents with cerebral palsy. *Revista Latino-Americana de Enfermagem*, 22(3), 440-447. doi:10.1590/0104-1169.3409.2435
- Ringle, C. M., Wande, S., & Becker, J.-M. (2014). *Smartpls 3.0*. Hamburg: SmartPLS. Retrieved from <http://www.smartpls.com>
- Robins, J. (2012). Editorial Partial-Least Squares. *Long Range Planning*, 45(5-6), 309-311.
- Roddenberry, A., & Renk, R. (2010). Locus of control and self-efficacy: Potential mediators of stress, illness, and utilization of health services in college students. *Child Psychiatry and Human Development*, 41(4), 353-370. doi:10.1007/s10578-010-0173-6
- Rodrigo, C., Fernando, T., Rajapakse, S., De Silva, V., & Hanwella, R. (2013). Caregiver strain and symptoms of depression among principle caregivers of patients with schizophrenia and bipolar affective disorder in Sri Lanka. *International Journal of Mental Health*, 7(2). doi:10.1186/1752-4458-7-2
- Rodriguez, E. M., Dunn, M. J., Zuckerman, T., Vannatta, K., Gerhardt, C. A., & Compas, B. E. (2012). Cancer-related sources of stress for children with cancer and their parents. *Journal of Pediatric Psychology*, 37, 185-197. doi: 10.1093/jpepsy/jsr054
- Roohafza, H., Sadeghi, M., Shirani, S., Bahonar, A., Mackie, M., & Sarafzadegan, N. (2009). Association of socioeconomic status and life-style factors with coping strategies in Isfahan Healthy Heart Program, Iran. *Croatian Medical Journal*, 50, 380-386.
- Rosell-Murphy, M., Bonet-Simo, J., Baena, E., Prieto, G., Bellerino, E., Sole, F.,...Mimoso, S. (2014). Intervention to improve social and family support for caregivers of dependent patients: ICIAS Study Protocol. *BioMed Central Family Practice*, 15, 53. doi: 10.1186/1471-2296-15-53
- Rossiter, J. R. (2001). The C-OAR-SE procedure for scale development in marketing. *International Journal of Research in Marketing*, 19(4), 305-335.
- Rubab, Z. K., Ibtisam., Samina, T., Azeemi., & Naveed. (2015). Lung carcinoma types, gender and its changing trend in the Punjab, 2008-2012. *Science International*, 27(1), 243-246.

- Rucker, D. D., Preacher, K. J., Tormala, Z. L., & Petty, R. E. (2011). Mediation analysis in social psychology: Current practices and new recommendations. *Social and Personality Psychology Compass*, 5(6), 359–371. doi: 10.1111/j.1751-9004.2011.00355.x
- Ryckman, R. (2004). *Theories of personality*. Belmont, CA: Thomson/Wadsworth.
- Saeed, Z., Ahmed, A. M., Shakoor, A., Ghafoor, F., & Kanwal, S. (2012). Depression in patients on hemodialysis and their caregivers. *Saudi journal of Kidney Diseases and Transplantation*, 23, 946-952.
- Salama, R., & El-Soud, F. (2012). Caregiver burden from caring for impaired elderly: A cross sectional study in rural Lower Egypt. *Italian Journal of Public Health*, 9. doi: 10.2427/8662
- Sanders, B. A. (2007). Using personality traits to predict police performance. *Policing: An International Journal of Police Strategies*, 31, 129-147.
- Sarstedt, M., Ringle, C. M., & Hair, J. F. (2014). PLS-SEM: Looking back and moving forward. *Long Range Planning*, 1–6.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). Research methods for business students (5th ed.). India: Pearson Education
- Schwarzer, R., & Schulz, U. (2013). Berlin Social Support Scales (BSSS). *Measurement Instrument Database for the Social Science*. Retrieved from www.midss.ie
- Sekaran, U., & Bougie, R. (2010). *Research Methods for Business: A Skill Building Approach* (5th ed.). New Jersey: John Wiley and Sons.
- Selye, H. (1976). *The stress of life* (2nd ed.). New York: McGraw-Hill.
- Shah, H., Sultan, S. M., Faisal M., & Irfan. (2013). Psychological distress among caregivers of patients with schizophrenia. *Journal of Ayub Medical College Abbottabad*, 25, 3-4.
- Sharma, A., Kaur, S., Kumar, T, M., & Singh, A. (2014). Extent of the burden of caregiving on family members of neurosurgical inpatient in a tertiary care hospital in North India. *Journal of Neuroscience Nursing*, 46(1), E3-E9.
- Shepperd, J., Klein, W. M., Waters, E. A., & Weinstein, N. D. (2013). Taking stock of unrealistic optimism. *Perspectives on Psychological Science*, 8(4), 395–411. doi: 10.1177/1745691613485247
- Sherbourne, C. D., & Stewart, A. L. (1992). Role functioning measures. In A.L. Stewart and J.E. Ware (Eds.), *Measuring functioning and well-being: The*

Medical Outcomes Study approach (pp. 205-219), Durham, NC: Duke University Press.

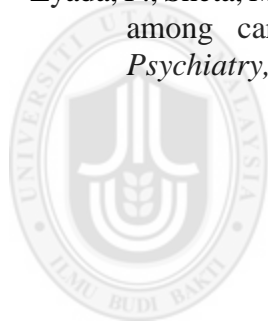
- Sherman, R. A., Nave, C. S., & Funder, D. C. (2013). Situational construal is related to personality and gender. *Journal of Research in Personality*, 47(1), 1–14.
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, 7(4), 422.
- Siegel, R. L., Miller, K. D., & Jemal, A. (2016). Cancer statistics, 2016. *A Cancer Journal for Clinicians*, 65, 5–29. doi:10.3322/caac.21254
- Siegler, I. C., Brummett, B. H., Williams, R. B., Haney, T. L., & Dilworth-Anderson, P. (2010). Caregiving, residence, race, and depressive symptoms. *Aging and Mental Health*, 14, 771–778. doi:http://dx.doi.org/10.1080/13607861003713257
- Skalla, K., & Ferrell, B. (2015). Challenges in assessing spiritual distress in survivors of cancer. *Clinical Journal of Oncology Nursing*, 19(1), 99-104. doi: 10.1188/15.CJON.99-104
- Smeltzer, S. G., & Bare, B. G. (1992): *Brunner and Suddah's textbook of medical-surgical nursing* (7th ed.). Philadelphia: JB Lippincott.
- Smith, G. R., Williamson, G. M., Miller, L. S., & Schulz, R. (2011). Depression and quality of informal care: A longitudinal investigation of caregiving stressors. *Psychology and Aging*, 26(3), 584–591. doi:10.1037/a0022263
- Smith, L., Hill, N., & Kocanovik, R. (2015). Experiences of depression, the role of social support and its impact on health outcomes. *Journal of mental health*, 24(6), 342-346. doi: 10.3109/09638237.2014.954693
- Smojver-Azic, S., & Bezinovic, P. (2011). Sex differences in patterns of relations between family interactions and depressive symptoms in adolescents. *Croatian Medical Journal*, 52, 469–477. doi: 10.3325/cmj.2011.52
- Snyder, & Christine, M. (2015). *Dementia caregiver personality traits and coping strategies: association with care recipient outcomes*. All Graduate Theses and Dissertations. Paper 4235.
- Sobel, E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, 13, 290–312.
- Sonnenberg, C., Deeg, D., van Tilburg, T., Vink, D., Stek, M., Beekman, A. (2013). Gender differences in the relation between depression and social

- support in later life. *International Psychogeriatrics*, 25, 61–70. doi: 10.1017/S1041610212001202
- Sorensen, S., Hirsch, J. K., & Lyness, J. M. (2014). Optimism and planning for future care needs among older adults. *Geropsychology*, 27(1), 5–22. doi: 10.1024/1662-9647/a000099
- Soylu, C., Ozaslan, E., Karaca, H., & Ozkan, M. (2015). Psychological distress and loneliness in caregiver of advanced oncological inpatients. *Journal of Health Psychology*, 1-11. doi:10.1177/1359105314567770
- Stam, H., Grootenhuis, M. A., Brons, P. P., Caron, H. N., & Last, B. F. (2006). Health-related quality of life in children and emotional reactions of parents following completion of cancer treatment. *Pediatric Blood and Cancer*, 47(3), 312–319.
- Stenberg, U., Ruland, C. M., Miaskowski, C. (2010). Review of the literature on the effects of caring for a patient with cancer. *Psycho-Oncology*, 19, 1013-1025.
- Stetz, K. (1986). *The experience of spouse caregiving for persons with advanced cancer*. PhD Thesis.
- Strober, L. B. (2016). Personality in multiple sclerosis: impact on health, psychological wellbeing, coping and overall quality of life. *Journal of psychology, health and medicine*, 1-10. doi: 10.1080/13548506.2016.1164321
- Strom, J. L., & Egede, L. E. (2012). The impact of social support on outcomes in adult patients with type 2 diabetes: a systematic review. *Current Diabetes Report*, 12(6), 769–781. doi:10.1007/s11892-012-0317-0.
- Sudman, S., & Bradburn, N. (1982). *Asking Questions: a Practical Guide to Questionnaire Design*. USA: Jossey-Bass
- Sun, V., Grant, M., Koczywas, M., Freeman, B., Zachariah, F., Fujinami, R.,...Ferrell, B. (2015). Effectiveness of an interdisciplinary palliative care intervention for family caregivers in lung cancer. *Cancer*. doi: 10.1002/cncr.29567
- Surkan, P. J., Peterson, K. E., Hughes, M. D. & Gottlieb, B. R. (2006). The role of social networks and support in postpartum women's depression: A multiethnic urban sample. *Maternal and Child Health Journal*, 10(4), 375-383.
- Tanaka, J. S. (1993). Multifaceted conceptions of fit in structural equation models. In K. A. Bollen, & J. S. Long (Eds.). *Testing Structural Equation Models*. Newbury Park, CA: Sage.

- Thoits, P. A. (2011). Mechanisms linking social ties and support to physical and mental health. *Journal of Health and Social Behavior*, 52(2), 145–161. doi: 10.1177/0022146510395592
- Thornton, M., & Travis, S. S. (2003). Analysis of the reliability of the Modified Caregiver Strain Index. *The Journal of Gerontology, Series B, Psychological Sciences and Social Sciences*, 58(2), 129.
- Toegel, G., & Barsoux, J. L. (2012). How to become a better leader. *MIT Sloan Management Review*, 53, 50-60.
- Trochim, W. M., & Donnelly, J. P. (2006). *The Research Methods Knowledge base*. Atomic Dog (3rd ed.).
- Turiano, N. A., Spiro, A., & Mroczek, D. K. (2012). Openness to experience and mortality in men: Analysis of trait and facets. *Journal of Aging and Health*, 24, 654–672. doi: 10.1177/0898264311431303
- Uchino, B. N. (2004). *Social support and physical health: Understanding the health consequences of our relationships*. New Haven, CT: Yale University Press.
- Ugalde, A., Krishnasamy, M., & Schofield, P. (2013). Development of an instrument to measure self-efficacy in caregivers of people with advanced cancer. *Psycho-oncology*, 22(6), 1428-1434. doi: 10.1002/pon.3160
- Van Berkel, H. (2009). *The relationship between personality, coping styles and stress, anxiety and depression*. PhD Thesis.
- Van Ryn, M., Sanders, S., Kahn, K., Van Houtven, C., Griffin, J. M., Martin, M.,...Rowland, J. (2011). Objective burden, resources, and other stressors among informal cancer caregivers: A hidden quality issue? *Psycho-Oncology*, 20(1), 44-52. doi: 10.1002/pon.1703
- Vanderstoep, S. W., & Johnston, D. D. (2009). *Research methods for everyday life: Blending qualitative and quantitative approaches*. San Francisco: John Wiley & Sons, Inc.
- Visser-Meily, J. M., Post, M. W., Riphagen., & Lindeman, E. (2004). Measures used to assess burden among caregivers of stroke patients: a review. *Clinical Rehabilitation*, 18, 601–623.
- Vollrath, M., & Torgersen, S. (2000). Personality types and coping. *Personality and Individual Differences*, 29, 367–378.
- Vrijmoet-Wiersma, J., Klink, J.M., Kolk, A.M., Koopman, H.M., Ball, L.M., & Egeler, R.M. (2008). Assessment of parental psychological stress in

- pediatric cancer: A Review. *Journal of Pediatric Psychology* 33(7), 694–706.
- Wallace, C., & Chen, G. (2006). A multilevel integration of personality, climate, self-regulation, and performance, *Personnel Psychology*, 59, 529 – 557.
- Wallace, J. C., & Vodanovich, S. J. (2003). Workplace safety performance: Conscientiousness, cognitive failure, and their interaction. *Journal of Occupational Health Psychology*, 8, 316 – 327.
- Wallhagen, M. I. (1992). Caregiving demands: Their difficulty and effects on the well-being of elderly caregiver. *Scholarly Inquiry for Nursing Practice*, 6(2), 111-133.
- Wan Afthanorhan, M. W. A. B. (2013). A comparison of Partial Least Square Structural Equation Modeling (PLS-SEM) and Covariance Based Structural Equation Modeling (CB-SEM) for confirmatory factor analysis. *International Journal of Engineering Science and Innovative Technology*, 2(5), 198–205.
- Wang, X. (2014). Subjective well-being associated with size of social network and social support of elderly. *Journal of Health Psychology*. doi:1359105314544136
- Wang., Cai., Qian., & Peng. (2014). Social support moderates stress effects on depression. *International Journal of Mental Health Systems*, 8(41). doi:10.1186/1752-4458-41
- Weston, S. J., & Jackson, J. (2016). How do people respond to health news? The role of personality traits. *Psychology & Health*. doi: 10.1080/08870446.2015.1119274
- Weston, S. J., Hill, P., & Jackson, J. (2014). Personality traits predicts the onset of disease. *Social Psychological and Personality Science*, 6(3), 309-317. doi: 10.1177/1948550614553248
- Wilborn-Lee, B. (2015). *The Effects of Stress and Burden on Caregivers of Individuals with a Chronic Illness*. Walden dissertation and doctoral studies.
- Wong, K. K. (2013). Partial Least Squares Structural Equation Modeling (PLS-SEM) Techniques Using SmartPLS. *Marketing Bulletin*, 24(1), 1-32.
- World Cancer Report, 2015
- Yehuda, B. (1999). Response rate in academic studies: A comparative analysis. *Human Relations*, 52(4), 421–438.

- Yousafzai, A., Bhutto, N., Ahmar, S., Siddiqui, M., & Selamat, S. (2011). Caregivers' stress of cancer patients in a tertiary care hospital. *Journal of Postgraduate Medical Institute (Peshawar - Pakistan)*, 22(1), 62-65.
- Zebrack, B., Stuber, M., Meeske, K., Phipps, S., Krull, K., Qi Liu,...Zeltzer, L. (2012). Perceived positive impact of cancer among long-term survivors of childhood cancer: A report from the childhood cancer survivor study. *Psychooncology*, 21(6), 630–639. doi:10.1002/pon.1959.
- Zhao, X., Lynch, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*, 37, 197–206.
- Zikmund, W. G., Babin, B. J., & Griffin, M. (2010). *Business Research Methods*. Mason, Ohio, South-Western.
- Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2013). *Business research methods* (8th ed.). Canada: South-Western, Cengage Learning.
- Zyada, F., Sheta, M., Degwi, H., & Saad, R. (2013). Anxiety, depression and strain among caregivers of terminally ill patients. *Egyptian Journal of Psychiatry*, 34, 77-84. doi: 0.7123/01.EJP.0000419667.93575.14



UUM
Universiti Utara Malaysia

APPENDIX





UNIVERSITI UTARA MALAYSIA

06010 UUM Sintok, Kedah Darul Aman, Malaysia. Tel: 604 - 928 4000

21 October 2016

TO WHOM IT MAY CONCERN,

Dear Sir/Madam,

DATA COLLECTION FOR RESEARCH PURPOSE (PhD)

This letter confirms that Ansa Qurat-ul-ain (900377) is a PhD student at the School of Applied Psychology, Social Work and Policy, Universiti Utara Malaysia (UUM). Currently, she is doing a research under my supervision titled "*Influence of Caregiving and Personality on the Stress Level of Caregivers of Cancer Patients: Role of Social Support as a Mediating Variable*". The objective of her research is to examine the influence of caregiving, personality and social support of caregivers on their stress level.

The information collected from the participants through the survey process (questionnaire) will be kept private and confidential. Your cooperation in this regard is highly appreciated.

Thank you.

Sincerely,

PROF DR. NAJIB AHMAD MARZUKI

Professor of Psychology
School of Applied Psychology, Social Work and Policy
Universiti Utara Malaysia
MALAYSIA



Informed Consent Form

I, the undersigned, confirm that I have read and understood the information about the thesis, as provided in the cover letter. I voluntarily agree to participate in the project. I understand I can withdraw at any time without giving reasons and that I will not be penalized for withdrawing nor will I be questioned on why I have withdrawn.

The procedures regarding confidentiality have been clearly explained to me as well as the use of the data in research, publications, sharing and archiving has been explained to me. I, along with the Researcher, agree to sign and date this informed consent form.

Name of Participant

Signature

Date



UUM
Universiti Utara Malaysia

Influence of Caregiving and Personality on the Stress Level of Caregivers of Cancer

Patients: Role of Social Support as a Mediating Variable

Dear Respondent,

This is a survey regarding influence of caregiving and personality on the stress level of cancer patients. Only 10-20 minutes of your precious time are required to fill in the attached questionnaires. All the questions are to be answered. It is assured that all the information will be kept confidential and will be used only for the study purpose. It is also assured that anonymity will be maintained.

Please be honest in your response so true results in our research could be obtained. Your cooperation in this regard is highly acknowledged.

Ansa Qurat-ul-ain
PhD Scholar

SECTION A: Demographic Information

Direction: Please tick in the relevant information.

1. **Gender:** Male: ☐ Female: ☐
2. **Age:** 20-30 years ☐ 30-40 years ☐
40-50 years ☐ Above 50 years ☐
3. **Marital Status:** Single: ☐ Married: ☐ Other: ☐
4. **Educational level:**
Primary ☐ Secondary ☐ Intermediate ☐
Graduation ☐ Masters ☐ Other ☐
5. **Occupation:**
Govt. Sector ☐ Private Sector ☐ Own business ☐ Other ☐
6. **Relation of caregiver and care receiver:**
Mother/Father ☐ Brother/Sister ☐
Grandparent ☐ Other relation ☐
7. **Duration of illness:** 0-3 years: ☐ 4-6 years: ☐ 7-10 years: ☐

SECTION B

Caregiving Tasks Questionnaire (Physical Caregiving)

Direction: Please tick the columns that best describes about caregiving activities that you may or may not doing now for care-receiver.

Sr. No.	Items	Strongly Disagree=1	Disagree =2	Neutral =3	Agree =4	Strongly Agree=5
1	I help care-receiver with eating his/her food.					
2	I help care-receiver with personal care (Dressing, bathing or hair care)					
3	I help care-receiver use the toilet, bedpan or commode.					
4	I help care-receiver walk across the room.					
5	I help care-receiver get in and out of bed, chair or couch.					
6	I plan care-receiver's meals.					
7	I prepare care-receiver's meals.					
8	I take care of care-receiver's banking, paying bills or other financial matters.					
9	I do shopping, appointments, or run errands for care-receiver.					
10	I help care-receiver with writing letters, phone calls, or other personal communications.					
11	I help care-receiver with laundry or other household chores.					
12	I provide transportation for care-receiver in getting from home to other places.					
13	I help care-receiver take her medications and /or prescribed treatments.					
14	I contact doctor about care-receiver's					

	medications and/or treatment needs.					
15	I check on care-receiver during the night.					

Berlin Social Support Scale (Emotional Caregiving)

Direction: Think about the patient. How did you interact with him during caregiving?
Mark the columns that apply to you.

Sr, No.	Items	Strongly disagree= 1	Disagree =2	Neutral =3	Agree= 4	Strongly agree=5
1	I showed him/her how much I cherish and accept him.					
2	I comforted him when he/she was feeling bad.					
3	I left him/her alone.					
4	I didn't have much empathy for him/her.					
5	I criticized him.					
6	I made him/her feel valued and important.					
7	I expressed my concern about his/her condition.					
8	I reassured him/her that he can rely completely on me.					
9	I encouraged him/her not to give up.					
10	I was there when he/she needed me.					
11	I did a lot for him/her.					
12	I took care of daily duties that he could not fulfill on his/her own.					

SECTION C

Big Five Inventory (BFI)

Direction: Please tick each statement to indicate the extent to which you agree or disagree with that statement.

I see myself as someone who...

Sr. No.	Items	Strongly disagree=1	Disagree =2	Neutral =3	Agree =4	Strongly agree=5
1	Is talkative					
2	Tends to find fault with others					
3	Does a thorough job					
4	Is depressed, blue					
5	Is original, comes up with new ideas					
6	Is reserved					
7	Is helpful and unselfish with others					
8	Can be somewhat careless					
9	Is relaxed, handles stress well					
10	Is curious about many different things					
11	Is full of energy					
12	Starts quarrels with others					
13	Is a reliable worker					
14	Can be tense					
15	Is ingenious, a deep thinker					
16	Generates a lot of enthusiasm					
17	Has a forgiving nature					
18	Tends to be disorganized					
19	Worries a lot					
20	Has an active imagination					
21	Tends to be quiet					
22	Is generally trusting					
23	Tends to be lazy					

24	Is emotionally stable, not easily upset					
25	Is inventive					
26	Has an assertive personality					
27	Can be cold and aloof					
28	Preserves until the task is finished					
29	Can be moody					
30	Values artistic, aesthetic experiences					
31	Is sometimes shy, inhibited					
32	Is considerate and kind to almost everyone					
33	Does things efficiently					
34	Remains calm in tense situations					
35	Prefers work that is routine					
36	Is outgoing, sociable					
37	Is sometimes rude to others					
38	Makes plans and follows through with them					
39	Gets nervous easily					
40	Likes to reflect, play with ideas					
41	Has few artistic interests					
42	Likes to cooperate with others					
43	Is easily distracted					
44	Is sophisticated in art, music, or literature					

SECTION D

Medical Outcomes Study- Social Support Survey

Direction: How often is each of the following kinds of support available to you if you need it? Tick one number on each line.

Sr. No.	Items	Strongly disagree=1	Disagree=2	Neutral=3	Agree=4	Strongly agree=5
1	Someone you can count on to listen to you when you need to talk.					
2	Someone to give you information to help you understand a situation					
3	Someone to give you good advice about a crisis.					
4	Someone to confide in or talk to about yourself or your problems					
5	Some whose advice you really want					
6	Someone to share your most private worries and fears with					
7	Someone to turn to for suggestions about how to deal with personal problem					
8	Someone who understands your problems					
9	Someone to help you if you were confined to bed					
10	Someone to take you to doctor if you needed it					

SECTION E

Modified Caregiving Strain Index

Directions: Here is a list of things that other caregivers have found to be difficult. Please tick the columns that apply to you.

Sr. No.	Items	Yes, On a regular Basis=2	Yes, Sometimes =1	Never=0
1	My sleep is disturbed			
2	Caregiving is convenient			
3	Caregiving is a physical strain			
4	Caregiving is confining			
5	There have been family adjustments			
6	There have been changes in personal plans			
7	There have been other demands on my time			
8	There have been emotional adjustments			
9	There have been work adjustments			
10	I feel completely overwhelmed			

