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### Author

Njuguna, Bernard

### Publication Date

2016

Peer reviewed|Thesis/dissertation

UNIVERSITY OF CALIFORNIA

Santa Barbara

Development of a Culture – Specific Scale for Assessing Behavior and Emotional Problems  
in Kenyan Adolescents

A Dissertation submitted in partial satisfaction of the  
requirements for the degree of Doctor of Philosophy  
in Counseling, Clinical, & School Psychology

by

Bernard Kigotho Njuguna

Committee in charge:

Professor Steve Smith, Chair

Professor Merith Cosden

Professor Melissa Morgan Consoli

Professor Erin Dowdy

September 2016

The dissertation of Bernard Kigotho Njuguna is approved.

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Merith Cosden, Ph.D.

---

Melissa Morgan Consoli, Ph.D.

---

Erin Dowdy, Ph.D.

---

Steve Smith, Ph.D. Committee Chair

September 2015

Development of a Culture - Specific Scale for Assessing Behavior and Emotional Problems  
in Kenyan Adolescents

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By

Bernard Kigotho Njuguna

## ACKNOWLEDGEMENTS

First of all, I am extremely grateful to the Almighty God who through His own wisdom and discretion found it worth of me to receive such a precious earthly gift of life and especially sustaining me through a journey towards a doctoral degree from one of the few world's renown Universities, and to learn at the feet of most knowledgeable and experienced professors at the University of California Santa Barbara.

I express my very sincere and lifetime gratitude to the current and past leadership of the J. William Fulbright Scholarship Board (FSB), and the staff at the Institute of International Education (IIE) who painstakingly administer the Fulbright staff Development Program without which my chances for partaking an advanced degree in mental health would have remained an but an academic mirage.

I am most indebted to the generous support I received from the three- generations of CCSP leadership under Professors Michael Furlong, Merith Cosden, and Shane Jimerson. Your capacity to understand, accommodate and own my needs remain a mystery. You leadership generously bestowed me life-transforming lessons for compassion that I will strive to match the goodness of measure with my future students and clientele.

And to a very special person: my teacher and academic advisor; my boss at PAC and chair to my dissertation committee; My mentor and "latent therapist;" and most of all a man I am privileged to call my friend - Dr. Steve Smith, aka "Prof". It is an open secret that my entire academic and professional accomplishments during my studies at UCSB had everything to do with "Prof". I am truly honored to be a "Smithsonian", and most of all I am

grateful for the opportunity to learn from Dr. Smith on how to be a “person” and let be a “human being”.

On the same breath, my immeasurable gratitude goes to my dissertation committee members: Dr. Erin Dowdy, Dr. Melissa Morgan Consoli, and Dr. Merith Cosden. Thank you so much for your remarkable lessons on career integrity, professional stewardship, and for your broad-spectrum contribution to my research project. Because of your commitment, the product has a chance to make a difference in the quality of mental health and lives of African adolescents, their families, care providers, and auxiliary stakeholders. Your combined and individualized confidence in me and the project especially in the midst of a journey never travelled, I saw and received sufficient fortitude to soldier on. Like Cosden (Nov. 2014) prophesied, “the *baby* shall have a name, live and not die”. We now have a name for the “*baby*” and have demonstrated great signs for survival to maturity.

There are many teachers and significant contributors whom I wish to acknowledge were it not for space. To mention but a few: Emeritus Dr. Manuel Casas for his candid insights to “the foot-paths in the forest”; Dr. Brett Kia-Keating, I shall forever be grateful for teaching me all the statistics I ever will need to know. Dr. Erik Lande for your in-depth teaching on neuropsychological assessment and for the opportunity to serve at the Psychological Assessment Center. Dr. Matt Quirk for being there when I needed sudden consultations in methods and critical thinking; Heidi Zester and Dr. Maryam Kia-Keating for “watching my baby-steps in the psychotherapy dancing” through the heights of supervision of supervisors in psychotherapy.

To staff Katie Tucciarone, Lupe Yopez, Dyan Wirt and Terri Bisson: what would it have been for me without your miracle performing inputs! To the staff at the Office of

International Students and Scholars (OISS) and particularly Director Simran Singh: your support is priceless and will always be treasured. To Jenifer Sheffield of graduate school and her husband Professor Maurice thanks for your support and every moment of trusting in my potential. To Pastor Jim & Jennie Firth; Professor Randall & Lady Danna VanderMey; Pete & Lady Marian Hollis, thank you for your prayers for your philanthropic responses in very trying times. Truly, it took a whole village for me get this far. Thank you all, and may God bless you immensely.

Finally, I register my acknowledgements to members of my family: the very young Jane Kigotho and Naomi Kigotho; Faith Kigotho; Dr. Emily & Dr. Kigotho; and to my wife Naomi Kigotho: Thank you folks for sacrificing all you got for me without reservation. Your love and understanding keeping me going. And soon, we will catch up... God bless you.

## **DEDICATION**

To my late Parents:

Mr. James Njuguna Gaithuma & Mrs. Helen Ruguru Njuguna

and my late parents in- law:

Mr. Sampson Njoroge Kangethe & Mrs. Tabitha Njeri Njoroge

for believing in me and your blessings for life.

May Almighty grant you eternal peace till we meet again.



## CURRICULUM VITAE

Bernard K. Njuguna, *Ph.D.*  
*Combined Counseling, Clinical & School Psychology*  
*California Waivered Psychologist Status*

Email: kigothobn@gmail.com  
Phone 805 708 4508

(A Senator William Fulbright Alumnus)

---

### EDUCATION

#### *University of California Santa Barbara (UCSB)*

**June 2016**

- Ph.D. Candidate Combined Program in Counseling, Clinical, & School Psychology (CCSP), APA Accredited Program
- Emphasis: Clinical Psychology
- Dissertation Title: *Development of a Culture - Specific Scale for Assessing Behavioral and Emotional Problems in Kenyan Adolescents*
- Dissertation Status: *Filing Stage*

#### *University of California Santa Barbara (UCSB)*

**2012**

M.A., Counseling Psychology

- Masters Research Project: *Mental Health Workers' Perception for Mental Illness: Examining variations in attitudes, advocacy, and treatment for persons with mental illness, in the County of Santa Barbara California*

#### *Antioch University, Santa Barbara, California (AUSB)*

**2009**

- M.A. in Psychology

#### *University of California Santa Cruz (UCSC)*

**2007**

- English for International Graduate Students

#### *Case Western Reserve University (CWRU)*

**1992**

- Graduate Program in Chemical Dependency

#### *University of Nairobi (UON)*

**1986**

- B.A. (Social Work) Upper Second Class Honors  
Dissertation Title: *Prediction of mental disorders in industrial setting in Kenya*

***Kenya Institute of Administration (KIA)***

**1983**

- Diploma in Medical Social Work (DMSW)
- Research Project Title: *Evaluation of social welfare services at SOS Children's Home Buruburu, Nairobi Kenya*

---

**Present:**

**Allan Hancock Community College Santa Maria Campus California – July 2016**

Part- Time Lecturer – Department of Psychology

---

**CLINICAL SUPERVISION AND ADMINISTRATION**

***University of California Santa Barbara (UCSB)***

**2013**

**Supervisor Basic Practicum Students at *the Hosford Clinic***

- Supervised weekly group supervision for junior doctoral student clinicians
- Provided individual and group supervision and facilitated supervisee personal and professional growth
- Facilitated and empowered graduate junior clinicians' with knowledge and skills to conduct client intake duties, case conceptualization, and development of psychotherapeutic interventions
- Created and sensitized junior clinicians on multicultural issues as related to psychotherapeutic competencies
- Provided on-call coverage and immediate supervision in the event of a crisis
- Taught professional ethical and legal issues in clinical work, intake processes, and professional process report-writing skills
- Graded supervisee's performance
- Conducted supervisees' formative and summative evaluations and gave feedback on supervisees' progress
- Actively participated in supervision for supervisors weekly forums and peer reviews

***University of California Santa Barbara (UCSB)***

**2012-**

**2013**

**Clinical Chart Hour Coordinator (CCH) for CCSP Doctoral Students**

- Researched and developed 15 topics of interest covered
- Organized and programed venues for the weekly one-hour sessions
- Researched, selected, invited and coordinated guest specialist speakers
- Designed, authored, signed and issued guest speakers certificates of appreciation
- Advertised and encouraged student and faculty participation in CCH
- Evaluated weekly CCH participation by faculty and graduate student cohort
- Conducted end of year CCH activities

***University of California Santa Barbara (UCSB)***

**2011-2012**

**Graduate Students Assistant: Psychological Assessment Center**

- Catalogued and organized PAC's psychological assessment, testing and evaluation batteries
- Modeled and modernized the filing system for clinical reports
- Designed an efficient tracking system for PAC resources including test batteries, protocols and computer based batteries and scoring toolkits
- Provided and interrupted PAC policy and procedures to graduate students
- Facilitated efficient execution of PAC services to patients
- Generated an inventory and glossary of assessment resources available at PAC

---

***University of California Santa Barbara (UCSB)*** **2009 -2010**

**Assistant PAC Manager**

- Coordinated psychological assessments activities
- Assisted PAC Manager in documentation and correspondences
- Booked and facilitated clients' appointments
- Conducted intake sessions
- Prepared assessment protocols and materials required for psychological evaluations
- Attended and Participated in PAC's monthly clinical meetings

---

***University of Nairobi (UON)*** **2004 -**  
**2006**

**Lecturer Adjunct Department of Psychology**

- Supervised counseling psychology students during the block placement
- Evaluated and graded students' clinical projects
- Conducted weekly clinical conference for intern psychologists from local Universities at the National mental health referral hospital
- Provided feedback to individual and group feedback to intern psychologists

---

***The Straight Talk Clinic-Nairobi*** **1995 –**  
**2007**

**Founder and Clinical Director**

- Developed policy and procedures for staff and adjunct clinicians
- Trained and supervised core team of five clinicians
- Developed print and electronic reference library materials for information, education and communication
- Developed manuals, modules and syllabi for a variety of behavioral change organizations
- Provided consultancy services to a variety of international and local community development organizations
- Supervised intern psychologists from various local and international Universities

---

***Public Service Commission of Kenya (PSC- K)*** **1991 -**  
**2007**

**Designated Clinical Psychologist II**

- Provided psychological services at Mathari National referral and University of Nairobi teaching hospital
- Trained and supervised mental health intern students from National Universities
- Established a 30- beds drug and alcohol inpatient treatment unit at Mathari hospital
- Provided in-service training for various carders of mental health workers
- Provided leadership in the department of psychology at Mathari hospital
- Participated in weekly clinical conference for medical students and psychiatry interns of the Department of Psychiatry, University of Nairobi.
- Facilitated various University students' dissertation research projects at Mathari hospital

**District Social Development Officer (DSDO) II 1987-1991**

**Served in Kitui, Murang'a and Elgeyo Marakwet Districks in Kenya**

- Supervised Government social development programs at District level
- Sourced, monitored and managed departmental Government funds at district level
- Initiated, developed and coordinated collaboration with local and international non-government organizations (NGO's) for community development projects
- Initiated, supported and managed women social and economic development programs
- Trained community based facilitators (TOF), trainers (TOT) and empowered communities to implement millennium goals
- Supervised governance and management of district youth technical development programs
- Served in the various District Development Committee (DDC) and district Executive Committee (DEC) considered as the supreme structures for overall development of government functions at district level

**PRE-DOCTORAL CLINICAL INTERNSHIP EXPERIENCE**

***University of California Santa Barbara (UCSB)* 2015 - 2016**

**Psychological Assessment Center (PAC)**

- Conducted integrated assessments with children, adolescents, and young adults
- Administered neuropsychological assessments
- Processed and generated neuropsychological assessment reports
- Provided clients with feedback and recommendations based on neuropsychological reports
- Provided assistance to PAC junior clinicians
- Attended weekly individual and group supervision sessions

***County of Santa Barbara, Department of Behavioral Wellness Services* 2015 – 2016**

**Santa Barbara Child and Family Services (SBC&FS)**

- Conducted Intake and assessment activities

- Prepared integrated one year duration treatment plans for children and adolescents
- Provided Individual and Family Psychotherapy
- Attended weekly clinical peer presentations and consultations
- Provided Consultation and liaised with akin community based service providers in Santa Barbara and tri-county community

*University of California Santa Barbara*  
2015

2014 –

**Counseling and Psychological Services (CAPS)**

- Conducted clinical interviews and intake sessions
- Conducted psychological assessment
- Generated psychological treatment plans based on intake and assessment
- Conducted Individual Psychotherapy
- Utilized DSM 5 and ICD -10 in case conceptualization
- Presented case conceptualization in professional peer review forums
- Consulted and liaised with external mental and psychological health providers
- Participated outreach programs on mental health and related services at UCSB
- Engaged and attended professional development forums within and outside UCSB

---

**OTHER CLINICAL EXPERIENCE**

*University of California Santa Barbara*  
2014

2010 -

**Psychological Assessment Center, Senior Clinician**

- Conduct integrated assessments with children, adolescents, and adults
- Carried out clinical interviews with the patient and family members
- Performed psychological tests and evaluations
- Administered cognitive, personality, and neuropsychological measures
- Participate in PAC bi-monthly peer and group supervision meetings
- Generated neuropsychological assessment reports and therapeutic correspondences
- Provided collaborative in-person feedback session to patients in post evaluation phase

*University of California Santa Barbara*  
2011

2010 –

**The Hosford Clinic Advanced Practicum Experience**

- Received the Ray E. Hosford Award for Excellence in Clinical Dedication
- Conducted long-term psychotherapy with individuals and couples
- Applied Evidence Based Practices in case conceptualization and intervention.
- Conducted clinical intakes
- Prepared a multicultural clinical formulations and interventions for patients with mental health concerns

***The Straight Talk Clinic (TSTC)- Nairobi, Kenya***  
**2007**

**1995 -**

- Establishment The Straight Talk Clinic (TSTC) as a counseling facility inside the Nairobi Central Business District
- Served persons with Chemical Dependency and HIV and AIDS
- Expanded TSTC into a generic counseling and training of trainers in capacity building
- Developed institutional capacity building department of within TSTC capacity,
- Provided supervised internship counseling psychology students from local Universities
- Developed day care program unit at TSTC for clients recovering from behavioral and addictive disorders
- Led TSTC as Behavioral Sciences Enterprise (BSE) with a one and half-staff organization at incubation phase into a full-time 15-employee organization and promptly met payroll for well over 11 years
- Managed to expand and maintain TSTC office space from an initial 225 square feet to over 2,475 square feet of office space in less than 10 years

---

**CLINICAL EXTERNSHIP PROGRAM**  
**2012**

**2011 -**

***County of Santa Barbara, Department of Behavioral Wellness Services***

- Conducted intake and assessment for both pre-booked and walk-in patients
- Provided psychological assessment for persons in acute mental health crisis
- Conducted assessments for danger to self, others, and grave disability
- Originated applications involuntary psychiatric evaluations per the California Welfare Institutions Code (CA WIC 5150) criterion
- Provided emergency response and on spot determination for patient's involuntary admission into psychiatric facilities for inpatient mental health care.
- Liaised with hospital emergency departments for medical evaluation and clearance for persons with psychiatric emergencies prior to processing admission into inpatient psychiatric facilities
- Collaborated with Santa Barbara Police Department and Sheriff Department in determination of WIC CA 5150 Hold or persons in police custody
- Provided evaluations for danger to self, others, and grave disability for inmates at county of Santa Barbara jail on request by jail mental health or Sheriff Department

---

**RESEARCH AND PENDING PUBLICATIONS**

***University of California Santa Barbara***  
**2016**

Doctoral Dissertation: *Development of a culture - specific scale for assessing behavioral and emotional problems in Kenyan Adolescents*

***University of California Santa Barbara***

**2012**

M.A. Research Project: *Mental health workers' perception for mental illness: Examining variations in attitudes, treatment, and advocacy for persons with mental illness in Santa Barbara, California*

***World Vision International – Kenya (WVI – K)***

**2006**

Project: *Evaluation of primary health care project for children and adolescents aged 5-17 years sponsored by the WVI – K; Dagoretti Area Development Program*

- Designed and conducted a community health needs assessment for target population
- Evaluated and appraised the impact of current health and social welfare services
- Highlighted on the challenges encountered by 3,600 WVI – K sponsored children and adolescents
- Presented findings to the executive of WVI - K Dagoretti ADP and discussed recommendations
- Originated evidence based proposals for redeeming areas of concern as identified in the report

***University of Nairobi (UON)***

**2005 Department of Psychology –Supervision of Student's Research Project**

Student's Project: *The Teenage Mother Phenomenon in Urban Poor Communities*

- Examined the plight of teenage mothers from a poor urban communities in Nairobi
- Provided assistance in study design, methodology and data analysis
- Guided, monitored, edited, and graded student's research project for submission to external examiner

***University of Nairobi (UON)***

**1995**

**Department of Psychology – Research Project**

Project: *The adolescent factor and health implications in Sub-Sahara Africa*

- Examined how adolescents from poor urban communities coped with schoolwork, family, community and socio-cultural environment, and Sexually Transmitted Infections (STI) and human immunodeficiency virus (HIV) pandemic
- Conducted group counseling sessions on weekly
- Developed story-line episodes generated and guided by respondents
- Validated visual story –line episode material guided by the participants
- Process participants findings on weekly episodes
- Presented findings in weekly meetings with other project researchers

***University of Nairobi (UON)***

**1995 -**

**1996 Department of Psychology - Research Project**

Project: *Validating psychological counseling as an intervention for reducing the spread of Human Immunodeficiency Virus (HIV) and Sexually Transmitted Infections (STI) among high-risk adult population*

- Examined the efficacy of group counseling as an intervention on adult population with high –risk behavior associated with spread and prevention of HIV and STI
- Facilitated focus group discussions (FGD) for adult with high- risk behaviors
- Prepared weekly group process data
- Participated in weekly discussions with co-research
- Corroborated and validated group discussion findings with the participants
- Co-presented and discussed results in many professional forums and symposia

***University of Nairobi (UON), University of California San Diego (UCSD), and The Kenya Red Cross Society (KRCS)*** **1986 - 1987**

**Research Project: Youth at Risk:**

An Ethnographic Study that examined psychosocial factors that influenced Kenyan youth to engage in high-risk health behaviors

- Examined youths’ perceptions of on youth and alcohol abuse, drugs, premarital sex sexual indulgence, school-drop out, and juvenile delinquency
- Served as lead local logistician, collected and analyzed data and generated preliminary draft report under supervision of the Principal Investigator

***University of Nairobi (UON)*** **1995-1986**

Department of Psychology – Dissertation Research Project

Project: *Prediction of Mental Illness in an Industrial Setting in Nairobi, Kenya*

- Examined inability to quit a perceived stressful work environment as a factor and predictor for mental illness
- Designed the study, collected and processed data from major “wage and benefit leader” industrial organizations in Nairobi
- Conducted parallel study with a sample drawn from the national mental health referral hospital and a University teaching hospital.
- Correlated and contrasted findings from both studies
- Presented results and successfully defended the study at the University of Nairobi

---

**TEACHING EXPERIENCE - (Selected)**

***University of California, Santa Barbara (UCSB)***

**Graduate Level Assignments**

- Pre- Doc Intern Psychological Assessment Center 2016
- Teaching Associate: Clinical Supervision - Hosford Clinic 2013
- Graduate Student Assistant: Psychological Assessment Center 2013
- Student Assistant: Psychological Assessment Center Manager 2010

**Undergraduate Assignments**

- Teaching Associate: Applied Psychology 2014
- Teaching Associate: Applied Psychology 2013
- Teaching Assistant: Introduction to Practical Applied Psychology 2012



- Teaching Assistant: Introduction to Applied Psychology, 2012
- Teaching Assistant Career and guidance Undergraduate course 2012
- Teaching Assistant Career and guidance Undergraduate course 2011
- Guest Speaker: Introduction to Applied Psychology 2011

***University of Nairobi UON)***

**2004- 2006**

- Stress and Stress Management
- Alcohol and drug problems
- Counseling persons with alcohol and substance abuse problems
- Clinical supervision
- Health and Applied psychology
- Block placement supervision

**COMMUNITY SERVICES AND BENEVOLENCE IN SANTA BARBARA CALIFORNIA (Selected)**

**Santa Barbara, California Loads of Love**

**2010**

- A community project that help homeless and indigent population in Santa Barbara such as laundry services, feeding, personal grooming, haircut and feeding.

**Hope Community Church (HCC) Santa Barbara**

**2010**

- Provided leadership and participated at Celebrate Recovery fellowship
- Facilitated self-help recovery process through fellowship
- Facilitated in self-awareness programs in relation anxiety and depression

**American Red Cross Society, Santa Barbara**

**2010**

- Provided psychosocial support during the hashish and tea fire disaster programs

**Council for Alcohol and Drug Abuse Volunteer**

**2009**

- Provided on call support at the inpatient detox facility

**COMMUNITY SERVICES AND PROFESSIONAL DEVELOPMENT**

(International Experience Selected)

***African Fulbright Alumni Network and Development (AFAND)***

**2008**

- Founded of the nascent African Fulbright Alumni Network and Development (AFAND). Members are drawn from 16 African States and are recipients of the Senator J. William Fulbright Staff Development Scholarship for advanced degree program in United States of America

***Kenya Country Delegate at International Forums***

**1991-1994**



## ABSTRACT

### Development of a Culture - Specific Scale for Assessing Behavior and Emotional Problems in Kenyan Adolescents

by

Bernard K. Njuguna

Child and adolescent mental health assessment in Sub-Saharan Africa has by large been acknowledged as requiring specific homegrown culture-sensitive scales for epidemiological, and intervention purposes (e.g. Abubaker et al., Harder et al. 2014; 2007; Ndeti & Achenbach 2012). The vicious cycle ensuing scarcity of validated and reliable data constrains advocacy for relevant and effective policies, which should address the quality of adolescents' mental health in Africa. Kenya is no exception, and continues to observe increasing manifestations of psychopathology and related behavioral and emotional problems among adolescents (Harder et al. 2014; Kuria & Ndeti 2011). This study was designed to evaluate the development of a culture – based adolescent centered instrument for assessing adolescents' behavior and emotional problems within the Kenyan cultural context. The initiative for creating a new instrument is part of a response to a larger quest for culture-sensitive tools for psychological assessment in sub-Saharan Africa (e.g. Abubaker et al., 2007; Mpofo, 2002b; Harder et al. 2014; Ndeti & Achenbach 2012). As a cross-national and poly-culture driven psychometric scale, the process of creating, drafting and testing the scale was done through long-term consultations and corroboration with the targeted cultural population, their care providers, mental health workers educationists, ordained faith ministers, local culture experts and ordinary local citizens. I surveyed 1473 adolescents aged 13–18 years drawn from the Kenyan cities of Mombasa, Nairobi, and Kisumu. The sample

identified their cultural and traditional roots in 45 of the 48 counties of the Republic of Kenya which translates to a 93.7% inclusion of the diverse traditions and cultural communities in the study. The instrument evaluated in this study was a product of consultation and collaboration with local teenagers and their care providers consistent with Abubaker et al., (2007) recommendations. The process included focused group discussions with teenagers of diverse cultural heritage, their care providers and identified cultural experts. I conducted cognitive interviews with a prototype of the target population ranging from standard seven to form four (equivalent to grade eight through 12 US education system). I used the feedback from the cognitive interviews to refine the instrument, and used the adjusted version to conduct a pilot exercise to refine content and data collection strategies (e.g. Yin 1994; & Robson, 1999).

A principal component analysis procedure using orthogonal rotation method established a reduced 25- item clinical scale consisting of three-subcales with a minimum of five items in [each subscale. The nosological aspects of the subscales were guided by philosophical underpinnings consistent with the science of childhood and adolescent psychopathology. Each of the subscales demonstrated high levels of internal consistency evidenced by the Cronbach alpha for each subscale: Cognitive and Attention Problems (CAP) (nine items;  $\alpha = .79$ ); Depression and Anxiety Problems ( DAP) (10 items;  $\alpha = .79$ ); Conduct and Disruptive Problems ( CDP) (six items;  $\alpha = .76$ ); and a strong stability showing moderate positive correlation between time 1 and time 2,  $r = .44$ ,  $p < .01$ . DAP subscale depicted a significant strong positive relationship,  $r = .74$ ,  $p < .01$ ; consistent with the universally admissible reliability index for clinical scales (Kleine,1999). Implications of the

findings compel strong recommendations for advancement to validate the Kenya Adolescent Behavior and Emotional Problems scale (K\_ABEP) scale

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## **Chapter 1**

### **Introduction**

#### **Adolescents' Psychological Health in the 21st Century**

The United Nations Population Division [UNDP], (2011) reports global population at 7.2 billion people with adolescents ages 10 - 19 years accounting for two billion of the total global population. Half of these children are very young adolescents ages 10 - 14 years. Graeff-Martins et al. (2008) estimates that adolescents account for 20% of the aggregate mental health and behavioral problems in the world. As reported by Bradshaw, Nguyen, Kane, and Bass (2013), young people with mental and behavioral disorders experience poor self-esteem and have limited opportunities for engaging in quality education and for optimal involvement in economic activities. The opportunities for the social and economic integration of young people affected by mental health conditions are, therefore, severely limited.

Globally, mental and behavioral conditions are the leading causes of ill-health among youth and account for more than one-third of all years lost in productivity due to disability (World Health Organization, 2008b). A survey by Merikangas, Nakamura and Kesler (2009) found that mental disorders ranked as the third leading cause of disabilities for people between ages 14 - 45 years.

In any given year, about 20% of the 2 billion adolescents worldwide, experience a mental health problem. Mood and anxiety disorders are the most common mental health disorders during adolescence (Wolfe & Mash, 2006). Suicide, which is often associated with mood disorder, is the second leading course of death for ages 12-18 years (WHO, 2012; Centre for Disease Control [CDC], 2010).

Studies on gender disparity and mental health in adolescents that cause marked

impairment are scarce. However, one in 10 adolescents have experienced a diagnosable mental health disorder (e.g. Burns et al., 1995; Roberts et al., 1998; Shaffer et al., 1996). A survey on adolescents ages 14 - 17 years found that 15.5% of females and 8.5 % of males have a diagnosable mental disorder (Costello, 1996; Roberts, Attkisson, & Rosenblatt, 1998). Romeo (2001) reported that female adolescents have higher rates than male of anxiety and depression disorders (i.e. internalized symptoms), and that males adolescents had higher rates than females of conduct and oppositional disorders (i.e. externalized symptoms). Costello, Erkanli, and Angold (2006) found that 5.6% adolescents' ages 13 to 18 experience externalized and internalized problems. Fortes (2012) postulated that over 80% of internalizing and externalized disorders occur during teenage years.

The gender disparities in the externalized and internalized manifestations raise questions regarding the role of culture and socialization during childhood and adolescence. Cicchetti et al., (2002) argue that meaningful distinctions within this broad developmental category are necessary for genuine insights into these rapid changes. Epidemiology, expression, gender differences, comorbidities, developmental pathways, contexts, and causes of these disorders in adolescents are different from those for other ages. These differences derive in part from the fact that adolescence is a transitional period of rapid developmental change, characterized by multiple interacting influences United Nations Children's Fund [UNICEF], (2002).

During adolescence, teenagers tend to show incremental improvements in various attributes such as physical strength, enhanced mental capabilities, and improved immune functions, yet the mortality rate during adolescence increases between 200 - 300 % (Burt (2002). According to Burt (2002), adolescents are twice as likely to experience behavioral

and emotional problems than during their younger years. Studies demonstrate that mental health problems affect adolescents' academic performance and social interactions. Fleitlich & Goodman (2000) postulate that persistent and untreated mental problems in adolescence may continue into adulthood; for example, problems in unemployment, alcohol and drug abuse, and criminality (Fleitlich & Goodman, 2000). Studies of unsuccessfully treated childhood mental disorders progress into adult psychiatric associated disabilities and impairments (Costello, Foley, & Angold, 2006).

Studies on adolescents' well-being show that adolescents with good mental health can learn and tackle developmental challenges using cultural resources to maximize growth (WHO, 2012). Mentally healthy adolescents have appropriate problem-solving skills, social competence, a real sense of purpose and meaning in life, and avoid risk-taking behaviors. Furlong, You, Renshaw, Smith, and O'Malley (2013) found that adolescents in sound psychological health have positive self-esteem, attend and engage in school, socially exhibit cohesion, have academic aspirations and educational achievement, and prospective future health and life chances.

Culture plays a significant role in prescribing and enforcing how people relate within and outside the confines of community. Bradshaw et.al., (2013) propose that people experience life and emotions as defined by culture. Further, Bradshaw et al., (2013) highlights that culture affect mental health by providing the content for its expression and yielding different forms of expression in different cultures even for the same mental-health conditions. Cultural differences affect the risk and resiliency factors that relate to mental-health conditions thereby influencing prevalence and incidence rates across cultures. Culture should thus have an impact on the selection and adaptation of appropriate prevention and

intervention strategies (Bass, Abramowitz, & Sartorius, 2012)

### **Salient Challenges in Studying Adolescent Psychopathology**

Mental health disorders that occur during the onset of puberty (ages 11- 12 years) and ending with entry into early adulthood (ages 18–24 years) have not been studied as much as those of childhood or adulthood (Irwin, Burg, and Cart, 2002). Neither has the global magnitude of adolescents' mental health problems received adequate priority in economic and political initiatives (e.g. Belfer, 2008). In developing countries, the struggle to define and attend to a mental disorder in the context of other devastating illnesses relegates mental health concerns to a second level of importance in the nation's health budget (e.g. Jenkins et al., 2011). According to Belfer (2008), there is a need to have adolescents' mental health concerns identified with sufficient specificity and to have simplified language for sharing with persons outside the mental health profession.

There are two fundamentally unique challenges to studying adolescents' behavior and emotional disorders. First, researchers have to contend with the inherent and complex task of determining and or predicting with precision the elusive nature of mental health and disorders. Buka and Gilman, (2005) postulate that there are many factors mitigating the various types of mental disorders as experienced throughout the course of life. In general, nosological matters in mental disorders are subtle. According to Beauchaine (2003), most developmental psychologists contest categorical classification systems of mental disorders for failing to incorporate pertinent cultural components, and not recognizing within-group cultural heterogeneity in determining mental illness. Further, Beauchaine (2003) contends that neither the International Statistical Classification of Diseases and Related Health Problems [ICD-10] nor the Diagnostic and Statistical Manual of Mental Disorders - Fourth

Edition Text Revision (DSM-IV – TR, 2000) incorporate meaningful cultural perspectives while classifying adolescents' mental disorders. Both ICD 10 and DSM-IV TR insufficiently account for adolescents' impairment (Munir & Beardslee, 2001; Rescorla et al., 2007).

Second, adolescents' behaviors and emotional disorders are operationally subtle because adolescence is developmentally dynamic and constantly changing, hence “a moving target.” For example, there are many changes and influences during adolescence including physical maturation, emerging sexuality, need for autonomy, growing peer influence, new sources of stress associated with physical appearance and relationships, thus exposing adolescents to a variety of stressors that place adolescents at risk (Kazdin, 2000). Research into such adolescent disorders as conduct disorder, substance abuse, mood disorders, suicide, eating disorders, anxiety disorders, relational violence, attention deficit/hyperactivity disorder (ADHD), and other problems indicates that adolescence presents unique challenges as compared with other developmental periods (American Psychological Association, 2002; Cicchetti and Rogosch, 2002).

### **Status of Adolescents’ Behavior and Emotional Disorders in Kenya**

Adolescents' behavior and emotional disorders in Kenya are neither well studied nor well understood compared to other aspects of adolescents' health and educational development (e.g. Kabiru et al. 2013; Mamah et al. 2013). The status of adolescents in developing countries (Kenya inclusive) is complex and ill-defined (Balmer et al. 1997). Balmer et al. (1997) found that adolescents in Kenyan urban centers engage in developing sets of personal values to govern their behavior, and upon consistent frustration, adolescents opted for dysfunctional coping strategies, which were injurious to their health. Balmer (1997) found that adolescents create and learn new sets of skills for a lifestyle that is peer- age

acceptable and less disapproved of by their families and the greater community, while others continue to function without clear role models by which to mold and control their behavior and emotions. Many adolescents are faced with the task of establishing a coherent and consistent set of survival values and for regulating their interpersonal interactions (Balmer et al. 1997).

Epidemiological studies on the prevalence of behavioral and emotional disorders among adolescents in Kenya and Sub-Saharan Africa in general, are limited, insufficient, and inconclusive (e.g. Abubaker et al. 2009; Achenbach & Ndetei, 2013; Mpafu, 2002). Kenyan youth have limited awareness and in-depth knowledge of psychological disorders, alcohol and substance abuse compared with other health related interests such as sexuality, reproductive health, and HIV and AIDS (Kabiru et al. 2013; Ndetei et al. 2011). There is limited research outside sexual and reproductive health issues affecting young people in Kenya and sub-Saharan Africa at large hence the paucity of empirical research on the broader context of youth in Sub-Saharan Africa. There is dire need for strengthening the capacity for generating empirical evidence in order to inform policies and programs for the wellbeing of young people in Kenya (e. g. Kabiru, 2013).

A baseline survey on alcohol, drug use and abuse among Kenyan youths report a sustained increase in the number of adolescents and youths with mental disorders and drug abuse problems (Ndetei & Kuria, 2011). Despite the increasing number of adolescents presenting with behavioral and emotional disorders, Mamah et al. (2013) found that Kenyan youth are significantly uninformed in matters of mental disorders. A recent study indicated that youths in Kenya are relatively aware of mental illnesses in the community, but have very limited knowledge of the meaning of specific psychiatric disorders and symptoms; and many



of the youth believe that the cause of mental illness is spiritual in nature (Ndetei & Vadher, 1984a; Ndetei et al. 2011, Mamah et al. 2013). Kenyan young adults require elaboration and appropriate assessment instruments and use of culturally-relevant terms in psychiatric issues and mental health matters in general.

The importance of mental health policies based on scientific data are necessary in Kenya in order to comprehensively address the plight of adolescents' behavior and emotional disorders (e.g. Jenkins & Kiima, 2010; Mamah et al. 2013). It is prudent for Kenya to embark on vigorous scientific processes to understand how young people have been impacted by the myriad traumatic incidents occasioned by terrorists, hostile neighboring countries, severe weather causing several years draught, and the internal political squabbles precipitating internally displaced citizens. Research in the field of behavior and emotional disorders especially for adolescents, has increasingly become of concern among mental health workers and related care providers in Kenya. For example, the troublesome riots in the secondary and higher institutions of learning have been attributed to unresolved behavioral and emotional problems in years preceding or during the second decade of life (e.g. Agak, Kabuka, & Wesang'ula 2011; Gikungu & Karanja, 2014; Ndetei, Othieno, & Kathuku, 2006).

### **Mental Health Care in Kenya**

In Kenya there are shortages of resources for addressing mental disorders despite such problems being the second ranking cause of disabilities in the region (e.g. Achenbach & Ndetei, 2013; Jenkins & Kiima, 2010). A recent mental health worker census in Kenya (Jenkins & Kiima, 2011) identified only 47 practicing psychiatrists in Kenya caring for the country's population estimated at 45 million people. Of the 47 psychiatrists, 22 of them exclusively provided services in the capital city of Nairobi, while the other 25 practiced in

other parts of the country. Jenkins et al. (2012) reported that the ratio of psychiatrists to patients in Kenya is 1 to 3.5 million. Data on other mental health workers such as psychiatric nurses, social workers, psychologists, and faith-based workers indicate a dire state of paucity. There are little data regarding proper census for the traditional mental health practitioners or those who practice alternative medicine, and whose influence in mental health in the country is overwhelmingly significant (e.g. Ndetei, 2012).

The principal physical resource for the mentally ill people in the country is Mathari Hospital located in the capital city of Nairobi, which serves as the only national referral and teaching hospital for mental health patients and with a catchment from the neighboring countries (Jenkins & Kiima, 2010). According to Modupeola (2013), lack of resources, personnel and funds constrain the provision of mental health services in many sub - Saharan African countries. In addition, inadequate infrastructure such as reliable transportation and medication, assessment tools and training of mental health workers are chronic obstacles for mental health workers in the endeavors to provide quality services.

## **Towards Developing of a Culture - Specific Scale for Adolescents in Kenya**

### **Statement of the Problem**

According to the World Population Review [WPR] (2013), Kenya's population was estimated at 45 million in 2013. Moreover, in 2014, two million adolescents and 5.6 million children are currently enrolled and attending secondary and primary education, respectively. Children under the age of 14 years account for 42.3 % of the population while those aged 15 to 24 years category account for 8.8% of the population. Accordingly, more than half (i.e. 51.1%) of the country's population is composed of persons below the age of 24 years. The need for relevant and dependable evidence-based mental health care and interventions is

critical.

The need for assessing adolescents' behavior and emotional disorders in Kenya is not only an urgent matter, but is an issue of great concern in assessing adolescents in sub-Saharan Africa. The lack of sufficient evidence of psychological research in sub-Saharan Africa, and particularly the absence of culturally appropriate, reliable, and valid psychometric measures for adolescent behavior and emotional disorders, has significant implications for intervention and research in applied psychology (e.g.; Abubaker et al. 2009; Mporu, 2002; Ndeti, 2008; & Ndeti et al. 2011). In Kenya, and other communities in East Africa, there is little research activity and evidence that suggest availability of psychological tools that are developed and standardized for use in assessment of behavior and emotional disorders among adolescents (e.g. Achenbach & Ndeti 2012; Jenkins et al. 2008). Consequently, there is little empirical evidence that reflects the plight of adolescents' mental health in Kenya, or evidence based practices and interventions specific for adolescents' mental health needs (Achenbach & Ndeti, 2013; Ndeti, 2008).

There is an urgent need to have and use culturally compatible instruments for assessing adolescents' psychological health and assist mental health care providers who are entrusted with the aggregate welfare of the adolescents in Kenya (Ndeti et al., 2011). Achenbach and Ndeti (2012) underscore the need for valid and relevant instruments for use in obtaining reliable information from parents, adolescent care providers, and the children themselves. Culturally sensitive and reliable instruments can serve the purpose of: (a) increasing the awareness of mental disorders in children and adolescents; (b) integrating data about these problems into health information systems; and (c) facilitating early identification of children and or adolescents whom upon assessment meet criteria for referral to specialized

intervention such as educational programs and mental health care services (Achenbach et al., 2012).

Presently adolescents' care providers such as teachers, health care and faith-based workers, parents, lawmakers and others who watch over adolescents in Kenya function with limited empirical data and understanding regarding the adolescents' psychological needs and wellbeing (e.g. Balmer et al. 1997; Jenkins & Kiima, 2010; Kabiru, 2013; Ndeti, 2011; Mamah et al. 2013). Without culturally and evidence-based data on adolescents' mental health status, it is difficult to establish guidelines for adolescents' mental health, and the services availed to the adolescents in the country.

### **Purposes of the Present Study**

The purpose of the present study is twofold: a) to develop a culture-sensitive scale for assessing behavior and emotional problems among adolescents in Kenya; b) to evaluate the internal consistency and temporal stability of the scale.

### **Research Questions**

The question of principal interest in this study is to determine whether the K\_ ABEP scale introduced in this study is reliable as a psychometric tool for assessing the behavior and emotional problems for adolescents in Kenya. In the primary research question for this study, three complimenting questions are implied:

- 1) Does the cultural context of the target population inform the development of K\_ ABEP scale?
- 2) Does the K\_ ABEP scale demonstrate acceptable levels of internal consistency?
- 3) Does the K\_ ABEP scale demonstrate acceptable levels of temporal stability?

## **Chapter II**

### **Review of Related Literature**

#### **Introduction**

As part of a cross - national study with a special focus and interest in school-going adolescents in Kenya, this chapter will examine a brief profile of the Republic Kenya. The profile will provide a contextual framework on which to appraise this proposal. In this preliminary section, I will highlight the country's multicultural identity status exemplified by languages, traditional influences on behavior and practices, and the mode of education system. The rest of the chapter will concentrate on literature relevant to the characteristics and development of instruments for screening and assessing behavior and emotional needs during teenage years, adolescence and youth.

#### **Kenya – A Multiethnic Republic**

Kenya is a multi-ethnic country with about 43 ethnic groups, each with its unique language. There are also Kenyans of American, Arabic, Asian, and European origin, and other Africans who have become citizens of Kenya (Finke, 2006). English is the official language, while Kiswahili is the recognized national language. In addition to the two languages, most indigenous Kenyans speak one or more local ethnic languages (Oyugi, 2011).

In addition to the elaborated use of ethnic languages, cultural attitudes and practices in all aspects of life are perpetuated from one generation to another. For example, traditional healers from different cultural and ethnic backgrounds have significant influence in nosological issues, matters relating to health seeking behavior, determination and intervention procedures, and especially in the treatment of major behavioral and emotional

disturbances (e.g. Ndetei, et al. 2012). Further, traditional practitioners provide culturally appropriate health care, which is linked to indigenous explanatory models of illness held by their patients (e.g., Arvin, et al. 2003). Indigenous explanatory models of illness incorporate spiritual understandings of causation, including upsetting the ancestors as well as witchcraft, and failing to perform rituals (Crawford, & Lipsedge, 2004; Ensink, & Robertson, 1999; Meissner, 2004; World Health Organization [WHO], 2002).

### **Kenyan Education System**

The education system in Kenya assumes a top-down model in design and implementation. There is a centralized national syllabus taught in all publicly funded schools and many private schools (Sanya, 2001). The education system consists of eight years of primary school, four years of secondary school and four years of basic university education popularly referred to as the 8-4-4-education system.

The language of instruction is English throughout the 8-4-4-education system. However, in the rural areas of the country the curriculum is taught in indigenous languages from Standards 1-3 (which is equivalent to Grades 1-3 in the U.S.A; Muthwii, 2002). Relevant to this study is the fact that most secondary and high schools are gender segregated, with boys and girls attending different schools. Gender segregation and the largely co-educational system, be it day or boarding schooling, is of prime significance in relation to adolescents' management of their behavior and emotional development.

### **Adolescent Development**

Adolescence is a critical developmental period marked by complex developmental milestones and transitions (Jones, 2011). Adolescence represents an important developmental link between childhood or environmental circumstances and adult outcomes, in which

previous adaptational patterns or difficulties may decrease, continue, intensify, or change (Steinberg, 2004, Glenley & Williams; 2002). Many adolescents live in very difficult circumstances and experience profound hardships. Jones (2009) found that teenagers encounter many afflictions including physical, emotional and/or sexual abuse, experience or witness violence or warfare, suffer from intellectual disability, slavery or homelessness, migrate from rural to urban areas, live in poverty, engage in sex work, are addicted to drugs and alcohol, or infected or affected by HIV/AIDS. The UNFPA (2013) report indicated that adolescents are subjected to cultural traditions that impede natural and normal growth and development. For example, some adolescents are subjected to traditional rites of passage involving genital mutilation; while others are given out for planned marriages by their parents (e.g. UNFPA, 2013; WHO, 2012; and WPR 2013), 2009). Traditionally, individual families and especially siblings play a crucial role in adolescents' life. However, traditional psychosocial networks of support systems have been gradually eroding, leaving many young people – especially those in urban areas in Kenya, with little and ineffective social support (Balmer et al. 1997).

There are fundamental epidemiological differences in the manifestation of childhood and adolescent emotional and behavioral disorders partly because adolescence is a transitional period of rapid developmental change and characterized by multiple interacting influences. Much of the research on behavioral and emotional disorders of childhood and adolescence has been based primarily on samples of children. Adolescents have been inadequately represented in these samples, sometimes leading to unsupported assumptions that the disorders are similar during childhood, through adolescence and across human development (Wolfe et al., 2006).

Assessing the behavior and emotional functioning of adolescents may result in early identification for at-risk youths, thus providing a timely responsive intervention. For example, students with behavioral and emotional disorders tend to display significant difficulties in bonding with others, have difficulty with learning, suffer depression and anxiety and exhibit inappropriate behaviors (e.g. Kamphaus & Reynolds, 2007).

### **Role of Psychometric instruments in Research and Intervention**

There is need for reliable assessment instruments in order to facilitate efficient provision of the psychological services (e.g. Mi Kim 2009). Mash and Hunsley (2005) specifically advocate the need to approach children and adolescents' needs and interventions from a scientifically informed perspective. Empirically informed perspectives provide for precision of information sharing and reduction of symptomatological ambiguity. Adler (2002) asserts that the use a society makes of its measures expresses its sense of fair dealing that our methods of measurement define who we are and what we value. The use of Evidence-Based Assessment (EBA) represents a paradigm shift in demand and production of psychometrically validated instruments (e.g. Mash & Hunsley, 2005).

The relationship between assessment and intervention has been identified as core competencies and qualifications associated with psychological assessment (Krishnamurthy et al., 2004; American Psychological Association, 2000). According to Weisz et al., (2004) the role of assessment in EBT is almost unexplored. Scholars and practitioners appraise that the essence of Evidence Based Assessments though the nature and strength of the links between assessment and intervention remain tenuous (Weisz, Chu, & Polo, 2004). However, there is consensus among researchers that EBA and EBT will aide in understanding, preventing, and ameliorating child psychopathology (e.g. Achenbach et al., 2005; Kamphaus & Reynolds,



2007). Further, Achenbach (2005) asserts that it is of secondary essence to have evidence for the methods and measures for all assessment purposes. Rather, Achenbach (2005) postulates that the Evidence-Based Treatment (EBT) should be encouraged irrespective of how to effectively identify and measure the problems that are to be treated and the outcomes following those treatments.

There are few psychological tools developed and standardized for use in sub-Saharan Africa (Abubaker et al., 2013). The lack of psychological research has significant impediments for intervention and research (e.g. Mpofu, 2002b). In the absence of culturally appropriate, reliable, and valid psychometric measures, stakes are high in importing standardized tests from Western countries (Holding, Taylor, Kazungu, Mkala, Gona, Mwamuye, Mbonani, & Stevenson, 2004; Kathuria & Serpell, 1998).

The transfer of tests to a non-Western context is frequently accompanied by test bias and limited validity (Greenfield, 1997; Van de Vijver, 2002). Test bias from imported tools may be due to a lack of familiarity with test demands (Mulenga, Ahonen, and Aro, 2001), poor translation of test items (Van de Vijver, 2002), stimulus unfamiliarity (Sigman, Neumann, Carter, Cattle, D'Souza, & Bwibo, 1988; Sonke, Poortinga, & de Kuijer, 1999), and incomplete coverage or inadequate sampling of behaviors associated with a construct (Sternberg et al, Grigorenko, Ngorosho, Tantufuye, Mbise, Nokes, Jukes, & Bundy, 2002; Van de Vijver & Tanzer, 2004).

### **Paucity of Psychological Instruments for Assessing Adolescents in Kenya**

In order to assess the behavior and emotional disorders experienced by adolescents in Kenya, the need for a culturally valid instrument is indispensable. There are several tools for screening and assessing adolescents' behavioral and emotional needs and disorders especially

in the western cultures (e.g. Williams, 2008). However, researchers caution that most of these instruments are normed and validated from and for use with western populations, and may not be relevant for use with non-western cultural groups. For example, Casas & Ponterotto (2010) assert that cultural considerations are of paramount significance in psychological research and interventions. This observation resonates with the need to examine cultural relevance of current and available instruments for assessing adolescents in the context of the target population.

The Behavioral and Assessment System for Children (BASC- 2) and the Achenbach System of Empirically Based Assessments (ASEBA) particularly on the assessment of adolescents provide a comprehensive approach in the assessment of adolescents' behavioral and emotional problems. Both the BASC -2 and ASEBA are of special interest to this study because the K\_ABEP scale is developed to screen and assess adolescents ages 13 – 18 years in Kenya.

The BASC-2 and ASEBA are examples of well-researched psychometric instruments for assessing children and adolescents' emotional and behavioral disorders (e.g. Williams et al. 2008). The BASC-2 screens and assesses a variety of emotional and behavioral disorders for adolescents, and provides for differential diagnosis, recommendations for educational development, and informed psychological interventions (e.g. Reynolds & Kamphaus, 2004; Williams, 2008). Further, the ASEBA YRS (11- 18 years) is designed to assess a broad spectrum of problems and adaptive functioning among children and adolescents (e.g. Achenbach et al. 2007; Achenbach et al., 2008; and 2010).

The BASC – 2 and ASEBA instruments were developed with the western population of teenagers in mind (e.g. Achenbach et al., 2008; Kamphaus & Reynolds, 2007), and either

would require more than just language translation to accommodate the cultural context of adolescents in Kenya and from similar cultural communities. For instance, in Kenya alone, there are over 43 ethnic groups each with its own unique language (e.g. Finke, 2006). This reality negates importation of a western-value loaded assessment instrument to a foreign cultural context. In a recent study, Harder et al. (2014) found generalizability for the ASEBA YRS (11- 18 years) instrument administered “to a high impoverished Kenya youth with substantial pre-existing distress following inter- tribal political engineered skirmishes culminating with evident manifestations for past traumatic stress disorder among the sampled population” (Harder et al. 2014, p. 4). However, findings based on single samples and populations may limit generalizability (Abubaker, et al. 2007).

#### **BASC- 2 - SRP –A- ages 12- 21 years for use in Kenya**

Although the BASC -2 for adolescents’ ages 12- 21 years has been translated into 74 different languages, none of these languages are spoken in Kenya save Swahili and English. These languages are not indigenous and are only used for official and national functions respectively. And even though BASC- 2 - SRP – A ages 12- 21 years, can be translated into indigenous local languages, the cultural context and western normed status in which the instrument is premised would potentially be subject to cultural bias.

#### **Instrument Structure and Respondents’ Level of Literacy**

The BASC- 2- SRP – A- ages 12- 21 years has 176 questions in total. The first part of the questionnaire consists of 69 questions with a two-point response. Whereas this seems cognitively adolescent-friendly, more than 10 items are culturally impaired especially to those who are less endowed materially. For example question 59 that seeks a response about flying from New York to Chicago twice in a week; or question 32 that seeks a response

regarding a 9 months trip on an ocean liner represent a geo-cultural and social economic presumptions and hence an assured source of construct bias.

The second part of the BASC-2 - SRP – A - age's 12- 21 years consists of 107 questions with a four-point response. There are more than five questions in this section, which may pose significant cognitive and cultural challenges for adolescents in Kenyan. For example, question 159 is about an adolescent having a personal phone, and receiving calls from popular movie stars. Although such questions are designed for validity check purposes, they still have contextual matter inferring to a cultural orientation that is alien to the target population. For the adolescents in Kenya these types of questions are presumptuous irrespective of language issues, and potential sources of false responses from the respondents, especially the very young ones (12- 14 year olds) or the older children who are academically challenged.

### **Youth Self-Report for Ages 11–18 (YSR) for use in Kenya**

The ASEBA Child Behavior Checklist (CBCL) for ages 6-18 is normed on a sample of 1,753 children who had not been referred for professional help within the preceding 12 months (Achenbach, 2007; as cited in Smith & Handler, 2007). The norming sample was drawn from 48 states of the Unites States of America and was stratified by socioeconomic status, ethnicity, and region. However, completing the ASEBA forms is especially difficult because items are not in one format. In addition, the scoring of completed forms is a complex task because profiles display scores for both the items and scales including weaknesses, strengths, syndromes, DSM-oriented, Internalizing, Externalizing, and Total Problems scales (Achenbach, 2007; as cited in Smith and Handler, 2007). Williams (2008) reports that one completed ASEBA instrument form is used for both screening and assessment; where the

instrument's raw scores are simultaneously computed to t-scores, which have cut offs for the number and severity of symptoms that are clinically relevant (e.g. Achenbach 2008; & Williams et al. 2008). This process may prove cumbersome and complex to both the protocol administrator and the interpretation of the outcomes.

The Achenbach Youth Self-Report for Ages 11- 18 years (YSR 11- 18 years) Instrument is well researched and translated in over 84 languages world wide including Swahili (Achenbach et al. 2007). But, the design, structure and clinical scoring of the YSR 11-18 is complex and requires intensive training for the scoring administrators. Like the BASC- 2- SPR-A – ages 12-21 years, the ASEBA (YSR 11- 18 years) instrument may not be appropriate for the assessment of adolescents' behavior and emotional disorders in Kenya for lack of cultural representation in their norming sample, and the level of skill required for scoring and interpreting the findings.

Abubaker et al. (2013) emphasized the need for researchers to consult with target cultural populations at all stages of psychological research to enhance the dependability and validity of the undertakings output especially in the interpretation and evaluation of constructs. In resonance with the cross- cultural psychological research ethos, assessing adolescents mental health needs in Kenya using western assessment and screening instruments would conspicuously attract clinical audits emanating from the instruments' inherent cultural and contextual lack of a match.

### **African Sagacity and the Psychology of Cultural Integration in Assessment**

While considering cultural underpinnings in the development of the K\_ABEP Instrument it was found prudent to be cognizant of bio-psycho-social approach to adolescents' behavior and emotional needs.

First, the Kenyan community is not only culturally diverse but also in the heights of socio-cultural transformation. The contemporary children and adolescents in Kenya are deemed to be under significant influence from the modern global social media (e.g. Gikungu & Karanja, 2014). Many children and adolescents in the region now have instant access to the global social media, and are active consumers and participants in world culture through electronic gadgets that their generational predecessors popularly known as the "dot com generation" did not have the luxury of similar exposure to.

Second, until recently, the Kenyan institutions of socialization, including education, governance and economic engagements, have sustained significant affinity for western values and have often regarded such as the gold standard take for material culture. However, Kenyans' cultural heritage has continued to sustain a firm base in indigenous social cultural practices while remaining sensitive to positive influences from other cultural settings (e.g. Ndetei, 2008; Mpofu, 2002). The implications for these cultural overtones are specific representations and inclusions in the complex intra and inter-cultural dyads as experienced by the adolescents in Kenya and those in similar socio-cultural setting in the region.

The current western psychological and philosophical way of life as manifested in contemporary literature does not in entirety represent African communities effectively (e.g., Mboya, 1999; Mpofu, Zindi, Oakland, & Munhuweyi, 1997; Serpell, 1989, 1991; Wober, 1974; Working Group on the Development of the African Psychological Society, 2000 as cited in Mpofu, 2002). Whereas there are plenty of personality and neuropsychological instruments that have been developed and used with children and adolescents in western cultures, few have been validated for use in non-western cultural contexts (e.g. Abubaker 2013; Ndetei et al. 2011; & Mpofu 2002).

According to Mpafu (2012), psychological services (including assessments) are underdeveloped, unavailable to the ordinary citizen in African communities and the few available represents the experiences of citizens of Western rather than African countries. However, it is important to note that even if psychological theories and assessment instruments were developed specifically for Kenya other African communities, they still would not account for to all Kenyans and all other African communities. However, as noted in Mpofu (2002b), the reasons for developing theoretical frameworks and guidelines for practicing psychological enterprises that are closer to the Kenyan and other African experience must be encouraged, since it would to add value and effectiveness of professional psychology.

In an effort to establish a balanced and inclusive approach to the current study, the construction of the K\_ABEP Instrument was premised on Mpofu's (2002) proposition that

a) Sense-making is the essence of experiencing; (b) the meanings that people construct are historically situated and take place within particular socio cultural environments; and (c) all human action is incomplete, partial and characterized by contradictions, concealments and distortions that call for interpretation or sense-making (pp. 182 ).

The K\_ABEP Scale is conceived and developed for use with adolescents in Kenya, and in communities that may identify with similar traditions and cultural practices.

## **Chapter III**

### **Research Method**

The main purpose of this study was to evaluate the development of a culture – based adolescent- centered instrument for their behavior and emotional problems within Kenyan cultural context. The initiative for developing of the new instrument is part of a response to a larger quest for culture-sensitive psychometric tools for psychological assessment in the greater sub-Saharan Africa (e.g. Abubaker et al., 2007; Mpofu, 2002b; Harder et al. 2014; Ndeti & Achenbach, 2012). The principal interest for this study was to determine whether the nascent Kenya Adolescent Behavior and Emotional Problems Scale (K\_ABEPs) matched the culture of the target population, and whether the scale achieved the conventionally acceptable levels of internal reliability and stability.

### **Methodological Details**

#### **Development of the K\_ABEP Scale**

This study proceeds in three phases. In the first phase, I conducted interviews to develop the initial item pool for the measure. In the second phase, I gathered initial psychometric data from a sample of Kenya adolescents. In the final phase, I revised the item pool based on reliability data. The task of this study was two fold: a) to create a new scale and b) to evaluate the scales reliability as a psychometric entity.

#### **A Prelude to the Development of K\_ABEP scale**

The development of the K\_ABEPs has two distinct and intertwined developmental phases. As a culture-based youth-centered psychometric instrument, the first phase of the scale's development involved: a) Inclusion of my many years of personal experiences in youth development programs, mental health worker, previous research, monitoring and



evaluation of myriad local, national and international youth and adolescents' programs; b) Consultation with peer youth, adolescents, and bonafide youth and adolescents leaders in Kenya. The second phase included drafting of the scale. During the drafting process, I made intensive consultations with my peer cohorts; scholars and experts in developmental psychopathology, statisticians, practicing clinicians, and commitment to relevant literature.

Consistent with recommendations and suggestions from Abubaker et al., (2007) on the need for consultation with for local experts when conducting psychological research, I devoted significant time and resources consulting with culture experts in Nairobi regarding the cultural- appropriateness of the scale in relation to the target population, local scholars at the University of Nairobi and the United States International University Kenya (USIU-K), peer youth leaders in Nairobi, and local commoners.

### **Antecedents of the K\_ABEP Scale**

The approach to developing the K\_ABEP Scale synthesized and integrated pertinent components recommended in various models in scale development (e.g. Clark, & Watson 1995; Coaley, 2010; DeVellis, 1991; Herppner, Wamplod, & Kivilighan, 2008; Smith, Fischer, & Fister, 2003, and Wood, 2010) among others. The common theme that emerged from each of these models include emphasis on ensuring that a psychometric scale must measure indeed only what it is meant to measure, and that it is empirically dependable across time. The development of the K\_ABEP Scale was therefore guided by a combination of pre-existing conventional guidelines pertaining to scale item construction, and in evaluating its reliability. The conceiving and constructing the K\_ABEP Scale assumed a non-normed reference orientation emphasizing the independence of an individual's responses rather than conforming to a preexisting alternative or dimension of a construct (Dawis, 1987).

### **National Radio and Television – Youth and Family life Programs - Host Consultant**

From the very initial stages of desiring advanced training in behavioral health, I have consistently followed and reviewed the trends of youth's wellness and related affairs in Kenya and neighboring communities. Between 1993 and 2007, I engaged in the design and presentation, a national-wide radio and television interactive live broadcast programs specifically for young people and their care providers. The process generated the mushrooming of hundreds of pilot youth lead listening groups. During the two-hours weekly national-wide live broadcast, we deliberated pre-identified youth-driven modules with the stewardship of a professional studio guest consultant. Typically, issues of fundamental concerns included matters of mental health in the guise of stress, depression, reproductive health, youth violence, sex, intimate relationships, education and self-development, abuse of drugs and alcohol, spirituality and self-preservation concerns among others.

Cumulatively, the quest of prediction, assessment, and intervention in matters pertaining to the psychological health of young people remained elusive in both statement and response. Nationally, both programs received extremely high live listening and interaction ratings. The program feedback indicated presence of similar youth and their care providers listening groups outside the Kenyan borders. As a by-product, a demand driven family live radio program was initiated and operated within similar modalities. Although the design of the program was skewed toward empowering parents and custodians of young people, most participants preferred to explore youths' behavioral and emotional concerns.

### **Social Development and Provision of Mental Health Services**

Another experiential source that informed the conception of the K\_ABEP Instrument relates to several years of social and community development work. Between 1987 and 1990,

I encountered myriad scenarios working with the rural poor youth, their families, and communities. Even then, the quest for assessment of youth psychopathology assumed significant priority in the dynamics of empowering communities for self-reliance.

For 16 years, (1991 and 2007), I served as a mental health worker at the national referral and mental health hospital and the only university teaching resource for mental health professionals in Kenya. The quest for a standardized psychological assessment tool posed significant challenge in clinical formulation and determination of interventions and dispensation of patients facing psychological difficulties.

### **Peer Youth Group Discussions - December 2010**

The formal process for originating and integrating the construction of the K\_ABEP instrument items began informally with a group of adolescents and youth in December 2010 while on a brief visit to Nairobi. My visit to my hometown naturally aroused the curiosity of my relatives, especially the adolescents and youth. It turned out that they were enquiring of the lives of their counterparts in the United States. They wondered about all sorts of things from healthy lifestyles to highlife that is the fantasy of people of all age groups and with limited exposure to the diversity of overseas traditions and cultures. As the well-meant inquiries continued through the weeks, I noticed that local issues were integrated in their concerns as well. I noticed that the adults were even more curious regarding parenting challenges compounded within the influences of social media upon the youth. A former colleague and a professional career teacher in charge of discipline, counseling and guidance services in his school requested a formal talk to his youths from his Christian fellowship youth group. Forty-Six youths between ages 10 and 19 years and 16 adults attended the session and actively participated through out the session that lasted approximately six hours

in the church hall. I brainstormed with the entire group, thereby setting an atmosphere for participatory learning. I had no preconceived intent to conduct focused group discussion as indicated in ethnographic survey (e.g. Werner & Schoepfle, 1987). However, using a large group facilitation technique (Desanctis, & Gallupe, 1987) and with the help of the other youth workers in attendance I split the group into four smaller groups based on age. Each small group was asked to come up with three topic or issues of interest and state what would be a possible solution.

The group reports that followed were amazing and surprising to me. Across the strata, the dominant themes included drugs, AIDS, peace, health, anxiety, depression, suicide, war, politics terrorism, relationships, education, spiritual fidelity, and parent relationships. Although not in order of preference, these concerns elevated my thought regarding behavior and emotional health for young people, as has been my pre-occupation in my earlier career. The 2010 encounter with young people presented me with an opportunity for understanding the complex challenges that contemporary urbanite adolescents in Nairobi contend with on daily basis.

In a study on health implications associated with the national 2007 - 2008 presidential election –related violence in Kenya, Ndeti et al. (2014) report significant increase in symptoms consistent with posttraumatic stress disorders including physical and sexual violence among adults aged  $\geq 18$ . Evidently, younger persons had their share of victimization, fatalities and witnessing as countrymen descended on each other ferociously and the destruction of painstakingly generational gained property. I had the opportunity to learn the views of the young people especially regarding the traumatic aftermath of the infamous ethnic violence in 2007- 2008.

The information acquired from the sharing with youth in Nairobi in 2010 provided the first script that was later developed and expanded into an ethnographic inquiry guide leading to first draft of the K\_ABEP scale items embedded with factual contributions by Nairobi's peer youth and adolescents. The items reflected the perceptions and perspectives for mental illness and disorders as ascertained to the sub-culture of adolescents and youth. Although the entire analysis of the peer group input was refined through 2013, the ethnographic footprints of the 2010 encounter with the 62 church youth group and adult youth leaders formed the agenda that influenced the genesis of the K\_ABEP Instrument survey that I conducted in 2013 in Kenya.

### **Design and Writing the First Draft of the K\_ABEP Scale**

The K\_ABEP scale was designed to have a Multiple Choice Question (MCQs) response format. Studies have shown and supported use of MCQs especially in development of a new scale or evaluation of a preexisting one where internal consistency reliability, stability across time, and validity are the focus of interest in a study (Considine & Thomas, 2005). I opted to use the MCQs design for the clinical items and preferred a Likert scale of 6-point design consistent with previous studies suggesting that a Likert scale 6 points had favorable discrimination and reliability results compared with a Likert scale of 5 points (e.g. Chomeya, 2010; Matell & Jacoby, 1971).

The first draft of the K\_ABEP Scale was constructed in spring 2012. The items in the draft originated from my observations during the 2010 trip and encountering the youth group in church. I had reflected on what I imagined the youths were thinking, what I saw them doing and how they expressed themselves. Beyond the 2010 encounter, I found myself advantaged by the experience I had accumulated regarding young people while working in

social development and public administration, educationist, radio and television live program expert, and as a mental health worker and certainly as a parent of young adult. The first draft had 96 items, which were thematically processed, and per contested feedback with an outside expert , the items reduced to 64 and were sustained by the culture experts' vetting process.

### **Language Resolve**

The target population was considered while developing the survey items. At some point, I consulted with my Kenyan friend wondering whether a translation into Swahili language was necessary. My friend, who is a career teacher and author of several Kiswahili text books reminded me that English remained the official language in Kenya, and that Swahili continued to serve as the national language. I was further reassured that in upper primary and above, students are well acquainted and expected to perform all academic and social interaction in fluent English. This was validated during the pilot and cognitive interview process as none of the respondents had language issue with the instrument.

### **Consulting with Cultural Experts**

In conducting psychological research, Abubaker et al. (2007) suggests that a key aspect in cross-cultural research in psychology is to consider consulting with the target population in order to enhance the validity of the data collected, its interpretation and evaluation” (pp. 176). In the current study, I identified persons in Nairobi to serve as “culture experts” and to provide feedback on the draft K\_ABEP scale (e.g. Abubaker et al. 2007; Spradley,1979).

### **Selection and Consultation with Culture Experts**

Selecting appropriate culture expert required careful consideration. I selected experts with cultural knowledge sufficient to provide specific feedback on the appropriateness of the

items under appraisal. Whereas I had no specific criteria for the selection of the experts, I considered aspects such as age, gender, education knowledge of the local culture and previous experience in research. From my own community, I relied on a professional career teachers and youth leaders whom we had been in correspondence with me since the 2010 encounter with young people at their church. The team of experts included: two retired educators, two primary, and two secondary school teachers, ; two lectures from the University of Nairobi lectures;; two members of the Christian faith;, and two mental health workers. Regrettably, I was unable to get a traditional medicine person as an expert to appraise the instrument despite the central role they play in management of psychological disorders in Kenya and in sub Saharan Africa as a whole (e.g. Arvin et al. 2010; Ndetei et al. 2013; Petersen & Flisher 2012;). It was not possible to have all the experts at one point at the same time. Whenever I made contact with culture experts, I introduced the study and the scale items and requested their feedback pertaining to cultural relevance and age appropriateness. The consultation sessions were therefore individualized and at the convenience of the experts. The agenda in each session solicited feedback to the instrument in terms of its cultural relevance with target population in focus. Feedback obtained from the culture experts was incorporated into the final draft that was further used in cognitive interviews and in pilot exercise.

### **Selection and Training of Volunteer Data Collectors (VDCs)**

The second group that was involved in vetting the items of the draft scale was identified and constituted of three career professional teachers, one ordained Christian minister, two logisticians and eight finalist undergraduate students of the University of Nairobi. The students were recruited on the basis of their respective cultural backgrounds, previous

experience in data collecting, willingness to volunteer in data collection activity in current study.

All the members of this group attended a three day instruction workshop where I facilitated the details of the survey. See appendix A for a full outline of the pre-data collection workshop. During the training, the VDCs provided feedback to the instrument, and incorporated all feedback obtained from the culture experts. During the training, the VDCs participated in the harmonizing the final edition of the culture-sensitive version of survey items. Although all the eight university students wished to be considered as Volunteer Data Collectors (VDC), due to resource constraints, only six were retained as VDC for the entire data collection and cataloging period and beyond.

The training of VDCs incorporated conducting role-play using the harmonized edition of the draft instrument. During the training, VDCs conducted role-plays as interviewer administering the survey protocol from the point of consent, assent, and administering the scale. On feedback, the interviewer and interviewee reversed roles. I provided feedback whenever possible especially in explaining the consent and assent instruments.

### **Piloting Exercise with the Scale Draft**

A pilot study involves small-scale testing of the procedures that the researcher plans to use in the main study (Gall, Borg, & Gall, 1996). According to Yin (1994) and Robson (1999), the main purpose of a pilot study is to refine data collection plans with respect to both the content and the procedures to be followed. It also provides the researcher an opportunity to test his/her confidence in interviewing and identify some of the problems that would affect the collection of valid data. Gall et al., (1996) add that, during the pilot interviews, the researcher should be alert to communication problems and inadequate



motivation on the part of the respondents and identify threatening questions and other clues that suggest the need for rephrasing the questions or even revising the procedure. Gall et al., (1996) suggests that researchers should find the best way to conduct interviews in order to establish the best rapport and co-operation from the respondents.

For this study and upon satisfactory accomplishment of the role-plays, the VDCs were given a take home exercise that included: administering the K\_ABEP Scale to female and male students of the age specified as target population (i.e. 13-8 years). The instructions for the take home activity emphasized that : i) pseudo respondents are formally enrolled in and attending school; ii) ensure that the parent's consent and respondent's assent were signed before administering the instrument; iii) record the amount of time spent administering the instrument.; iv) respondents were in the age range of interest i.e. 13- 18 years old.

### **Cognitive Interviewing with the Scale Draft**

During the pilot activity, the VDCs also conducted cognitive interviews with male and female respondents selected from a cross-section of the target population. Through close and careful monitoring, I ensured that the cognitive interviews conducted by the VDCs were elicited responses based on respondent's understanding, interpretation, and quality of response to the scale items consistent with Collins (2001) recommendations.

The logistician who was a local high school career teacher in Nairobi guided the VDCs in structuring out the pilot and cognitive interviewing activities such that the seven-intra personal profile items in the demographics section of the scale (age, gender, level of schooling faith, duration of stay, and attending status) were evenly covered. Participants for

the cognitive interviews were independent from those who participated in the pilot exercise. See Appendix B for the full version of the instrument.

On the third and final day of the VDCs workshop, feedback from all the VDCs was discussed. Because the VDCs were paired while carrying out the pilot and cognitive exercises, they reported satisfactory performance; indicating having gained more confidence by conducting the pilot and cognitive interviewing and it strengthened skills learned from the role-play activities conducted during the workshop. The instrument was finally endorsed as target appropriate, culture- based, and executable

The pilot and cognitive interview activities assumed professional research ethos covered during the training and consistent with stipulations outlined in the American Psychological Association [APA] ethical principles and code of conduct with emphasis on standards 8 and 9 on research and assessment respectively.

### **Test-Retest Process**

In order to establish the stability of this scale a test – retest procedure was conducted. The Principal Investigator (PI) consulted with culture experts in order to figure out the optimal sampling process, which would minimize sampling bias for the test retest procedure. The PI underscored the need to have multiculturalism approach in place while considering the test –retest sample. After examining multiple options, it was resolved that one institution met the criteria for having students from: i) lower to upper social economic status; ii) offering residential and day schooling options; iii) located within the cosmopolitan neighborhood of the city where schooling occurred. This institution was selected for test retest.

Participants were informed of the procedure at three different times as follows: i) the

parental consent form explained that “your child may also be asked to complete the same questionnaire in two weeks”; ii) the assent form informed the potential respondent that “you may also be requested fill another questionnaire in approximately two weeks”; iii) while administering the Test – retest 1 exercise the participants were reminded that they would be expected to participate in the same activity in a fourteen days time. The test retest procedure was as follows: i) A sample of 60 eligible subjects will be drawn from the population of interest; ii) Participants were requested to show up for a repeat to the same questionnaire on the 14th day after their first response; iii) The researcher and VDCs ensured that the exercise was repeated by the same participants as verified by their counseling and guidance schoolteacher who accepted to assist the VDCs in both occasions. Test 2 was carried out under very similar conditions as the first time.

### **Participants’ Details**

Participants were students drawn from 21 schools located in the three and only cities of Kenya namely: Mombasa, Nairobi, and Kisumu. Although living and studying in the city, respondents identified with their hometowns in 44 out of the 47 counties of Kenya. Counties in Kenya are known for their unique culture and traditional practices – including languages, spiritual practices, health responses, rights of passage, and hospitality – that are unique, specific and independent from each other (e.g. Kenyatta, 2015; Haugerud, 1997; & Kays, 1975). The sample included nine participants from eight international communities including: Ethiopia, Jamaica, Somalia, Southern Sudan, Saudi Arabia, Uganda, Iran, and Tanzania. In a sample of 1473, the nine international participants in the sample were retained in the data pool on the basis that they lived and schooled in their respective cities. A listing of the counties of Kenya is provided in Appendix C

The overall national sample ( $N=1473$ ) comprised of respondents aged 13-18 years, ( $M = 15.140$ ,  $SD = 1.587$ ,  $Range = 5$ ); females accounted for 805 (54.7%) while 668 (45.3%) were male. Participants were school going and enrolled between standard seven through form four ( $M = 9.449$ ,  $SD= 1.492$ ) which is the equivalent grades 7 – 12 of the USA education system). Participants indicated having lived where they were schooling as follows: Up to  $\leq 2$  years = 254 (17.2%); 3- 4 years = 174 (11.85); 5- 7 years = 183 (12.4%);  $\geq 8$  years = 863 (58.6%). Further, 1, 252 (85%) of the participants were Christians by self-identification, while 159 (10.8%) identified as Muslims. Traditionalists were 21 (1.4%), whereas 41 (2.8%) preferred not to provide a response regarding their faith.

On family psychosocial dynamics, participants order of birth was reported as follows: First-born: 452 (30.7%); Middle child: 588 (39.9%), Last-born: 367 (24.9%); Single child: 66 (4.5%). Participants from single parenthood accounted for 106 (7.2%) those from married parents were 1011 (68.6%); those from separated parents were 112 (7.6%), while 186 (12.6%) reported having a parent who was widowed. Participants who had lost their biological mothers accounted for 90 (6.1%), while 226 (15.3%) reported having lost their biological fathers.

Participants attending public schools were 1039 (70.5%), while 407 (27.6%) attended private schools. Only 27 (1.8%) attended community supported schools commonly known as “Harambee schools” or Community Development Funded (CDF) schools. Further, day scholars were 999 (67.8%), while boarders were 474 (32.2%). Data regarding participants attending unisex day school showed: boys only: 237(16.1%); girls only, 24 (1.6%); boys and girls day school 739 (50.2%); boys boarding only 163 (11.1%); Girls only boarding 167 (11.3%); Boys and girls boarding 143 (9.7%). Data on participating schools’

socio-economic status ( SES) and distribution are available in Table 1 of this report .

## **Procedure of the Study**

### **Official Clearance**

The actual procedure of collecting data did not start until all official requirements were formally satisfied. I successfully applied to Institutional Review Board (IRB) at the University of California-Santa Barbara for authorization to conduct this study in Kenya. The Kenyan authorities required that I apply for clearance from the National Commission for Science Technology and Innovation (NCSTI). As required by the laws of Kenya, prior to consideration by the NCSTI, researchers are required to be affiliated with a designated local university with research matching interest. I successfully applied for affiliation with the United States International University Kenya (USIU-K). After receiving the authorization letter from the Commission in Kenya, I was directed to contact the respective County Commissioners and County Education Directors in the counties of Nairobi, Mombasa, and Kisumu. These were the cities pre-identified by the consulting teams while developing the study design for data collection. As a cross-national study, that the three cities were geographically and culturally found to be ideal and more likely to host school going adolescents from all the corners of the country. More letters by the County Education Commissioners (CEC) were written directing the local District Education Offices (DEOs) to assist me in sampling the of participating schools for this study from their administrative jurisdiction. The criteria for selecting the participating schools were developed by a consortium of experts in the CEC's office in conjunction with the VDC and the PI. The basic principal considerations include: i) cultural diversity of student enrolment; ii) mixed gender

enrolment and single gender enrolment; iii) boarding only, day and boarding, and day school only; iv) age of students enrolled accommodate the age of targeted sample- 13 – 18 year); v) Social Economic Status ( SES) as defined by the schools' sponsorship status documented in the CECs office. Table 1 provides a summary of schools sampled and SES categorization

Finally, I met with the head teachers of the schools who also assisted with the final sampling of the potential student respondents through their personal involvement or directing the responsibility to the deputy head teachers or the counseling and guidance teachers..

Further, the students were approached with details regarding assent and the consent of their parents consent. The majority of the students (67.8%), were day students and were therefore able to get the consent signed prior to data collection; for those in boarding schools (32.2%), parental consent was expedited through the exceptionally efficient systems used by the school administration to access parents in the event of haste. All consents and assents were granted in fashionable time to allow for the data collecting process to take effect. For students sampled for test – re-test, I explained what it meant elaborating the same details in their assent forms. The endorsed consent forms were securely returned to the VDCs separate from the scantrons with the assistance of the teachers. In all the 21 schools that participated in this study, data was collected after classes; hence there was no interruption of regular school activities. There was not a single adverse incident reported during the entire exercise.

### **Logistics and Deployment of the VDCs**

The recruitment and training of the VDCs provided the ease in which all three long distance data collection sites were simultaneously covered. Prior to deployment, the VDCs were contracted and signed the document detailing their responsibilities and expectations. A

comprehensive copy of the memorandum of understanding (MOU) is provided in Appendix D.

Deployment of the VDC to the various data collecting sites was based on familiarity with indigenous cultures and geographical familiarity. At each site, two VDCs and one Lead Volunteer were deployed to each city where the District Education Office assisted the team with local arrangements for ease of carrying out the assignment. Each team spent three nights in their respective sites and managed to meet the expected target.

### **Monitoring and Evaluation of Data Collection Process**

I designed a daily reporting system that was used by to share experiences and consult through mobile phone conference. On case-to-case bases, lines were ever open throughout the exercise. I travelled to the city of Kisumu ( 405 km) west of Nairobi to support the VDCs and consult with the local personnel at the various data collecting cites. I had one day visit with the Nairobi team for similar reasons. I received from and provided feedback to the VDCs in Mombasa (550 km south East of Nairobi over the phone every midmorning and often spoke with various teachers and educationists assisting the VDCs

### **Indexing and Cataloguing Returns**

Following completion of the field activities, the team met for one week for purposes of indexing the anonymous scantrons, and shredding the questionnaires. Each team was allocated materials from another team. I provided guidelines on what was to be counted as a not useful scantron including blank copies, physically tattered or defaced. Each group was to manually compute the responses regarding participants' home county and a record of number (not names) of schools that participated. The teams taking care of the test-retest were

retained for an extra two weeks in order to re-administer the second test to the participants on test re-test program. Final cataloging was done after I personally approved the indexing.

### **Acknowledgement of VDCs**

The survey had no incentives to offer participants or those assisting the VDCs in accomplishing their responsibilities. The entire team while collecting data in the field encountered not a single incident. All participating volunteers were awarded a certificate of participation from UCSB endorsed by project chair and project committee member. Overall, process evaluation detailing the logistics, VDCs involvement, and data collecting process is found in this report as Appendix E.

## **Data Analysis**

### **Cleaning and Preparation for Analysis**

Data was analyzed using PASW Statistics for Macintosh version 18.0 to evaluate the psychometric aspects of the K\_ABEP Scale. The primary objective for this study was to evaluate the new scale's internal consistency reliability and to establish its levels of stability across time.

Prior to engaging in data analysis, I had to ensure that the raw data met the conditions for conducting a principal factor analysis to determine factor structure if any. The initial step was to scan the scantrons containing the raw data from the 49 clinical items of the scale, and export the digital information into the SPSS version 18.0 for preliminary screening prior to analysis. A series of statistical techniques were conducted to examine for multiple entries, missing data, and normality. There were four reverse coded items by design and these were reviewed to certify appropriate interpretation. Further, variables were also examined for missing values across respondents, and for data that were missing at random. Of the 1583



entered participants, 110 were removed from the sample listing due to missing more than four items values, while 13 items with missing values were replaced used the series means method. As a result it finally was determined that ( $N = 1473$ ) would be retained for data analysis process.

### **Determining Optimal Factor Solution**

Principal component analysis (PCA) was conducted consistent with (Pett et al., 2003) indications for reducing a large number of variables to fewer component loadings. The value assigned component loadings signify the correlation coefficients between the item and the component, i.e. the rows and columns respectively. The survey was conducted in one sitting, it was determined that Cronbach's alpha coefficients computation would be used to evaluate the internal consistency of the scale.

According to Cronbach (1984), Cronbach's alpha reliability coefficients are conventionally admissible as an index indicating the relationships between items and variables (Nunnally, 1978). Guidelines for interpreting Cronbach alpha coefficients as provided in (Heppener et al., 1999; Field 2013; & Warner, 2008) indicate:  $\alpha < .5 =$  unacceptable;  $.5 \leq \alpha < .6 =$  poor;  $.6 \leq \alpha < .7 =$  questionable;  $.7 \leq \alpha < .8 =$  acceptable;  $.8 \leq \alpha < .9 =$  good; and  $\alpha \geq .9 =$  excellent. For this evaluation,  $\alpha$  was set at .05 to determine significance.

The result of conducting a PCA on the 49 scale items produced an optimal factor solution with only 25 items in total. These items were considered uncorrelated with each other, hence the preference in choosing to use the Variamax orthogonal rotational method in extracting component loadings (e.g. Warner, 2008). No subjective criteria were used to

determine retention of single factor loadings; rather the factor retention was determined by the statistical procedures.

Upon conscientious examination on the item loadings on each subscale, Cronbach coefficients alpha  $\alpha$  for each of the optimized factor solutions were evaluated for internal consistency. After a rigorous cross - reference with the literature on child and adolescent psychopathology, and consultation with experts, a thematic-based pattern was identified used to determine nosological constituencies and labeling of each subscale.

Finally, Pearson bivariate correlation coefficient  $r$  was performed on the subscales samples for time 1 and time 2 with a two weeks interval. According to Cohen's (1998), the strengths of the associations for Pearson'  $r$  coefficients denoted by  $r$  imply that: a value of 0 indicates that there is no association in the subscales between time 1 and time 2, while an  $r$  of  $\pm .1$  to  $\pm .3$  indicates a small relationship, a value of  $\pm .3$  to  $\pm .5$  indicate a medium association, and  $\pm .5$  to  $\pm 1.0$  indicates a large effect size. To evaluate the scale's stability across time, a Pearson bivariate technique was applied on data that was collected by the scale ( $N= 56$ ) in time 1; and ( $N= 52$ ) in time 2. Data were obtained from a test-retest procedure conducted within a two-week interval. In time 1 ( $N = 56$ ), and time 2 ( $N=52$ ). Only the 25 items on the K\_ABEP scale were used in conducting the Pearson product – moment correlation coefficient to evaluate the stability of subscales time 1 across time 2.

### **Methodological Summary**

The creation of the scale items resonated with behavioral and emotional concerns originated and identified by groups of adolescents, youths with multi cultural and ethnic identities living in Nairobi. As a cross-national and poly-culture driven clinical assessment scale, the process of creating, drafting and testing the scale was done through long-term

consultations and corroboration with the targeted cultural population, their care providers, mental health workers educationists, ordained faith ministers, local culture experts, and ordinary local citizens. This experience was consistent with Abubaker et al. (2007) recommendations for appropriate consultation and corroboration with local culture- experts in order to enhance the validity and reliability of cross-cultural research in psychology. During the item-creation phase of the scale development, I conducted a series of consultative meetings with other type of mental health professionals, including experts in developmental psychopathology, scholars, psychometricians, peer clinical colleagues and statisticians in behavioral science research for feedback. I also reviewed relevant literature from a broad-spectrum of scholarly works, attended related symposiums addressing the plight of adolescents' mental health.

The gist of this study was to establish the internal consistency and stability of unprecedented culture-specific and adolescent based instrument for assessment Kenyan adolescent behavioral and emotional problems the study design was informed by the target population, local culture-experts, consultations with developmental psychopathology scholars, mental health clinicians, scholars and psychometricians. Data was collected in December 2013 through February 2014. However, the actual information gathering, observations, engagement with the cultural context, development of a blended ethnographic and preexisting science akin to adolescent behavioral and emotional problems of the target population dated decades ago. By the results regarding the reliability of the scale, and discussions thereof are presented in the consecutive chapters four and five of this report respectively.

## **CHAPTER IV**

### **Results**

The report on the findings of this study includes a brief narrative on the consultations and corroboration with target population and stakeholders to insure inclusion of cultural relevance into the core of the scale. A detailed description and analysis of the scale development, formation of optimal component structure, and deciphering the subscales is provided in this section. Finally, a thorough report on the internal consistency reliability of the scale and its temporal reliability are presented in this section of the report.

#### **Cultural Relevance**

The culture- based adolescent centered assessment scale (K\_ABEP scale) was well supported by the inclusion of all stakeholders from the conception of the scale to the successful completion of data collection process. Consistent with experts' recommendations for engaging cultural experts in psychological research, the conception and pre-testing the K\_ABEP scale for cultural relevance was a corroborative and consultative process with and for the target population including integration of basic ethnographic interviewing techniques, cognitive interviewing teenagers, role playing and mini-piloting the scale, corroborating results with adolescents, use of local volunteers for data collection, provides basis for a claim that the scale has sufficient cultural sensitivity with the target population.

Further, the sample identified with 44 out of the 47 counties in the country as their mother hometown. The sample therefore represented a cultural heritage and the ways of the people in their home county. As a surprise, the sampling results identified eight participants in the sample from other countries.

## **Exploration of an Optimized Scale**

The main objective for evaluating the new scale was to establish whether:

- a) The new scale was sufficiently and properly informed by the target population's cultural context
- b) The new scale achieved acceptable levels of internal consistency reliability
- c) The new scale achieved acceptable levels of temporal stability

In order to address these objectives, a series of conventional statistical enquiry processes were conducted:

- i. Acquisition of an adequate national-wide sample representing the targeted population consistent with the benchmark of the Kaiser-Meyer–Olkin [KMO] measure of sampling adequacy (e.g. Kaiser, 1970; & Field, 2013, p. 684)
- ii. Achieve a simplified un-rotated component solution with a cut off consistent with the widely acceptable Keiser's eigenvalues of  $\geq 1$
- iii. Establish a simplified rotated component solution with subscales loading  $\geq .40$ , no cross-loadings  $\geq .30$ , and a minimum items  $\geq 5$  on each subscale
- iv. Achieve levels of internal consistency reliability within the subscales based on the conventional Cronbach's alpha  $\geq .70$  (e.g. Cronbach, 1984)
- v. Achieve levels of stability across time consistent with Pearson's bivariate correlation coefficient  $\geq .70$  in each subscale (e.g. Cohen 1958)

## **Principal Component Analysis (PCA)**

The principal component analysis (PCA) is described as “a multivariate technique for analyzing that analyses data in which observations are described by several inter-correlated quantitative dependent variables” (Abdi & Williams, 2010, p. 2). Further, Abdi & Williams,

(2010) elaborates that PCA extracts and compresses important information from a data set, simplifies its description, and analyzes the structure of the observations and variables (p. 3).

A principal component analysis was conducted on the 49 original items of the scale using Variamax orthogonal method and consistent with Keiser's (1958) recommendations for simple solution to a vast volume of uncorrelated variables. The Keiser –Meyer – Olkin measure verified the sample as adequate for component analysis (KMO = .93) and in accordance with Hutcheson & Sofroniou (1999) recommendations for sampling adequacy.

The results for the initial un-rotated PCA revealed 12 factors with eigenvalues greater than Keiser's (1999) criterion of 1, and explained 50.1% of the variance. In addition, the scree plot-inflections generated by the original 49- scale items depicted possibilities for three or four simplified component solutions. Based on the scree plot indications, a non-rotated four-factor PCA orthogonal process was conducted with an absolute value cut off  $< .20$ . The resultant simplified component solutions depicted unclear clinical themes, though explaining 30.8% of the variance. A further PCA was conducted using Varimax orthogonal rotation solution while requesting to extract three components, and observing an absolute value  $< .20$ . The resultant was a distinct three-component solution. The item loadings established in each of the three-component solutions were subjected to a further criterion requiring retention of items whose loadings were  $\geq .40$ , rejection of items with cross-loadings  $\geq .30$ , and at least five items in the component's loading. The final process established a reduced 25- item clinical scale consisting of three-subcales with factor loadings per the preset criterion.

### **Nosological Determination of the Clinical Subscales**

Following the determination of the optimized component loadings, the 25-items were deciphered and examined for clinical themes and nosological purposes. The three optimized

component solutions produced three cluster subscales befitting clinical themes identified as: a) Cognitive and Attention Problems (CAP); b) Depression and Anxiety Problems (DAP); c) Conduct and Disruptive Problems (CDP). The CAP, DAP and CDP subscales were retained and comprise the Kenya Adolescent Behavior and Emotional Problems (K\_ABEP) scale. See Table 2 for more details.

### **Evaluating Scale's Internal Consistency Reliability**

Cronbach's alpha reliability coefficients analysis was conducted to examine the internal consistency reliability of the K\_ABEP scale. The Cronbach alpha coefficients for each subscale were as follows: Cognitive and Attention Problems (nine items):  $\alpha = .79$ ; Depression and Anxiety Problems (10 items):  $\alpha = .79$ ; Conduct and Disruptive Problems (six items);  $\alpha = .76$ . The corrected item total correlations, the Cronbach's alpha if item deleted, and Cronbach's alpha reliability coefficients for the K\_ABEP Subscales are displayed in Table 3 of this report.

### **Total Variance Explained by the Optimized Subscales**

The K\_ABEP optimized scale explained 40.04% of the total variability as a psychometric measure. At Subscale level, CAP accounted for 14.09%, DAP accounted for 14.03%, while CDP accounted for 11.92% of the total variance. See Table 4.

### ***K\_ABEP Full Scale Variability (N= 1473)***

The K\_ABEP Subscales variance scores were as follows: CAP: ( $M = 2.07$ ,  $SD = 1.07$ , Range = 5); DAP: ( $M = 1.17$ ,  $SD = 0.95$ , Range = 5); CDP:( $M = 0.80$ ,  $SD = 0.91$ , Range = 5), The K\_ABEP scale descriptive statistic indicate ( $M = 3.27$ ,  $SD = 1.79$ ), Range 10.05. Table 5 in this report displays scale's descriptive statistics.

## **Evaluating the K\_ABEP Scale's Temporal Reliability**

### **Sample Scale Test –Retest Analysis**

A Pearson correlation coefficient was performed to determine the stability of the K\_ABEP sample scale and for each its three subscales across time. Pearson's bivariate correlation on the **sample** scale's test 1 and test 2 indicated:  $r = .55$ ,  $p < .01$  denoting a strong positive correlation (e.g. Cohen, 1998) in the scale's temporal stability across time. See Table 6. A coefficient of determination computed for the sample scale indicated:  $r^2 = 30.25\%$ .

### **Sample Scale Variability across Time**

The sample scale descriptive statistics in time 1 indicated: ( $M = 8.12$ ,  $SD = 1.43$ ); while in time 2, ( $M = 8.25$ ,  $SD = 1.37$ ). See table 7. A paired sample  $t$  test on the sample scale's mean scores was conducted to determine whether the mean difference across time and 2 was statistically significant and if so to what extent was the difference. The paired  $t$  test revealed that: ( $M = -0.22$ ,  $SD = 1.32$ ;  $t(51) = -1.19$ ,  $p = 0.24$ ). See Table 8 in this report. The paired  $t$  test result implies that there were no significant means difference in the scales' sample means across time 1 and 2.

### **K\_ABEP Subscales Test –Retest Analysis**

A Pearson correlation on the K\_ABEP Subscales was conducted to examine individual subscale's stability and reliability across time. The CAP Subscale indicated,  $r = .44$ ,  $p < .01$  implying a moderate positive correlation status across time 1 and 2. The DAP subscale revealed  $r = .74$ ,  $p < .01$  indicating a significantly strong positive relationship across time 1 and 2.: The CDP subscale bivariate correlation revealed a positive though mild relationship, across time 1 and 2,  $r = .29$ ,  $P > .05$ . See Table 9 in this report. All three subscales demonstrated positive linear relationships of varying strengths across time.



Computations of coefficient of determination with respect to individual subscales revealed  $r^2 = 19.36\%$  for the CAP subscale, while DAP subscale revealed  $r^2 = 54.76\%$ . The CDP subscale indicated  $r^2 = 8.41\%$ .

### **K\_ABEP Subscales Variability Across Time**

Sample Subscales variability cross time indicate: CAP at time 1: ( $M= 3.49$ ,  $SD = 0.99$ ), while at time 2, ( $M= 3.58$ ,  $SD = 1.00$ ). DAP at time 1: ( $M= 4.46$ ,  $SD = 0.59$ ), while in time 2, ( $M= 4.49$ ,  $SD = 0.56$ ). CDP at time 1: ( $M = 4.48$ ,  $SD = 0.79$ ), while at time 2, ( $M= 4.50$ ,  $SD = 0.79$ ). The variability for each subscale in time 1 and time 2 are found in Tables 10 and 11 respectively in this report.

### **Determination of Means Differences Across the Subscales**

A paired samples means  $t$  test was conducted to determine the extent of mean variability differences on each subscale scores across the time. The results of the paired  $t$  test were as follows: CAP time 1 and 2 ( $M = -0.15$ ,  $SD = 1.03$ ),  $t(51) = 1.04$ ,  $p = .30$ ; DAP time 1 and 2: ( $M = .67$ ,  $SD = 4.23$ ),  $t(51) = 1.15$ ,  $p = .26$ . CDP time 1 and 2: ( $M = .33$ ,  $SD = 5.77$ ),  $t(51) = .41$ ,  $p = .68$ . Paired samples  $t$  test revealed that none of the subscales had a statistically significant means difference across time.

The CDP subscale's bivariate correlation across time 1 and time 2 indicate a remarkably strained positive relationship ( $r = .29$ ) and with a coefficient of determination  $r^2 = 8.41\%$ . Data on this sunbscale suggest a range restriction on the CDP subscale given that CDP time 1: ( $M= 4.48$ ,  $SD = 0.79$ ); and in time 2: ( $M=, 4.50$   $SD = 0.79$ ). It is imperative that more work on correcting range restriction is required for a statistically conclusive psychometric appraisal of the CDP subscale.

## **CHAPTER V**

### **DISCUSSION**

#### **Summary of Results**

The purposes of this study were two fold: a) to create an instrument for assessing behavior and emotional problems among adolescents in their cultural context; b) to examine the internal consistency reliability and stability across time for the new culture based-adolescent centered assessment scale.

#### **Psychometrics of the Scale**

The Kenya Adolescents Behavior and Emotional Problems scale (K\_ABEP) is a 25-culture based item scale for assessing adolescents with behavior and emotional problems that was established following a principal component analysis procedure using Variamax orthogonal rotation established, with three clinical subscales. Each subscale represented items that conveyed common themes across the scale namely: Cognitive and Attention Problems (CAP); Depression and Anxiety Problems (DAP); Conduct and Disruptive Problems (CDP). All subscales attained internal consistency reliability levels that are admissible for psychometrics scale and consistent with Kleine's (1999) recommendations for internal consistency levels of a scale.

The scale's stability across time demonstrated moderate positive linear relationships in the CAP and DAP subscales. However, the CDP subscale demonstrated extremely low levels of correlation ( $r = .29$ ) and more work to establish the actual status or reliability for this CDP subscale is needed. Until further work explores the function and validity of this subscale, it is recommended that users exercise extreme caution in interpretation of this subscale and the entire measure. There were no significant mean score differences on all

three subscales implying little variation between participants' responses in time 1 and time 2.

## **Implications of the Study**

### **National Relevance**

The results of this study have some implications within and beyond the target population. The sample successfully represented the anticipated cross-national cultural local target population. Data indicate that the participants for this study identified with their home counties distributed throughout the country, and thus providing an understanding of the geographical scope covered, and diversity of cultural representation. There are 47 counties in the country and participants identified with 44 countries.

The findings of the study suggest that the K\_ABEP scale demonstrates plausible cultural relevance and sensitivity compared to western-based models that are highly developed and specialized for screening children and adolescents' behavior and emotional problems. For example, the Behavior Assessment Systems for Children and Adolescents second edition (BASC – 2 SRP –A) screens for ages 12- 21 years and has been normalized with western model emphasis (e.g. Kamphaus and Reynolds, 2007). The K\_ABEP scale focus on a more restricted age range of (13 – 18 years) compared with BASC-2 and was developed through the bottoms-up approach for cultural inclusion consulting with targeted population for cultural relevance and age appropriateness. Further, administering the 25 item K\_ABEP scale is less time consuming compared to 176 item in BASC -2. Although BASC - 2 contain items that suggest acquaintance and familiarity with an elite and western culture, the K\_ABEP scale items were generated through a long-term collaboration and consultation with the target population and culture experts across a national social structure. The K\_ABEP scale as a potential culture based psychometric instrument is promising through its formation

and inclusions of potential beneficiaries.

In addition to the ease in administering the K\_ABEP scale, scoring the protocol is relatively simple and less laborious compared with other highly sophisticated models for use with Kenyan adolescents. For example, Achenbach and Rescorla (2001) developed the Youth Self Report (YSR) for assessing behavior and emotional problems for ages 6 – 18 years. According to Williams et al., (2008), the YSR present with administrative and interpretation subtleness and that require assessors to have specific training for use in both protocol administration and scoring even among the western cultures.

The K\_ABEP scale demonstrates largely acceptable psychometric properties. The subscales achieved Cronbach's alpha coefficient reliabilities that are admissible for psychometrics scales. According to (Reynolds & Kamphaus 2007), the BASC-2 SPR which is well researched, and a reputed gold standard instrument for screening and assessing behavioral and emotional problems illustrates internal consistencies for general sample ranged from .61 to .89 in various composite scales, and .64 to .90 for clinical populations. The K\_ABEP scale consistencies in the range of .76 and .79 in general population only. These alphas are acceptable psychometric properties (e.g. Kleine 1999; Cohen, 1988). On stability, BASC- 2 test retest analysis indicate  $r^2 = .80$  (Reynolds & Kamphaus, 2007) p. 24 . The Child Behavior Checklist for ages 11- 18 years (CBCL 11- 18) has demonstrated mean values on international comparison ranging from  $r = .48$  to  $.81$  (Rescorla *et al.* 2012). Similarly, the K\_ABP full scale test retest  $r^2 = .49$ . According to Cohen (1988), these correlation ratings are within acceptability level for a psychometrics scale stability across time.

The full scale's potential is backed by its by the cultural relevance among Kenyan

adolescents and their care providers. For a developing country like Kenya and with dire need for human and physical resources, the K\_ABEP scale may eventually be useful for assisting adolescents' care providers in assessing behavior and emotional problems.

### **Research Implications**

The current study is the first step in the development of a comprehensive culture based and adolescent focused psychopathology assessment scale. At this stage in the development of the scale, the findings suggest that it might have potential to be a culture-sensitive instrument for screening and assessing for adolescent psychopathology. Further validation is warranted prior to clinical use. Evidence from scattered efforts to document and consolidate a culture based-data for informing adolescents centered business should constantly be prioritized to update and generate culture-appropriate policies specific to the needs of the youth. In this respect and in contrast with pre-existing improvised assessment tools for adolescent, the K\_ABEP scale stands out as a potentially authentic culture-based scale instrument for definite intended purposes.

### **Limitations of the Study**

#### **Resource limitations**

The scope of engaging participants from rural communities in the creation and development the scale items and during the data collection process was hampered by scarcity of funding. Because of similar and related resource constraints, the three cities in the country were conveniently selected as study areas. In lieu of travelling to each and every ethnic community countrywide for purposes of sampling target population from their geographical,

cultural and physical environment, the selected cities presented a national wide prototype cultural representation of the target population.

### **Timing for data collection**

Another limitation is associated with the timing of the data collection. The first term of the school year begins in January. By virtue of being the first term, any activity pertaining to education in the country tends to experience the “rush” to readjust to a new class environment and new challenges. Data for this study was collected in schools in a time and season when the academic year had just begun and had to contend with other priorities deemed as significant by all stakeholders.

### **Future Directions**

The creation of a reliable youth and culture centered psychometric scale for Kenyan adolescents opens many challenges to researchers, adolescent centered agencies, educationists, public trustees, and regular care providers. This successful portion is a call for the larger and more vigorous research and commitment ahead to move on a fully -validated psychometric scale for adolescents. The process demonstrated in this study is an invitation for future research and scholarships to focus on the greater search for an in-depth search for a comprehensive validated end-user friendly psychometric scale.

The lessons from the current study encourage full-scale ethnographic studies targeting the knowledge base of adolescents and youth in sub Saharan Africa in matters of behavior and emotional disorders. Literature on the cultural aspects of mental health remains scarce other than by the traditional practitioners and their scarcely selected or appointed protégées. The understanding of how young people decipher behavior and emotional distress is important. It is therefore in the interest of mental health workers and society to prioritize

psychological aspects of the young persons to whom the future of the community is entrusted.

The involvement of stakeholders in the brainstorming process yielded a wealth of information not elsewhere documented or if in the public domain, has not received the attention compensating its worth. With issues of reliability verification established, the way forward is primed in the direction of more rigorous efforts to advance the validation stage in preparation for a formal and acceptable launching of the scale for intended purposes.

Besides and associated with the current study, there is need for other studies to address other age groups who equally need a specific assessment scale. It is envisaged that care providers such as parents, and teachers may benefit from a formal instrument that can provide evidence based collateral information for the diagnostic and intervention purposes.

In conclusion, a lot of work to develop the K\_ABEP scale to functional status has just begun and so is the need to pursue the scholarships appertaining to the vast field of untapped assessment using culture- specific and compatible assessment scales.

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## **List of Appendices**

### **Appendix A: Data Collection Orientation Workshop**

Venue: YMCA Nairobi H/Q ; Dates: January 4th, 7th and 8<sup>th</sup> 2014. Time 10:00 am – 4:00PM

#### **Objectives**

By the end of the training, the participants will

1. Learn the basic ethical research principles
2. Review signs and symptoms associated with behavioral and emotional disorders
3. Learn basic principles in public relations
4. Review adolescents' basic psychosocial aspects
5. Learn how to approach study subjects and administering research instrument(s)
6. Learn how to administer a cognitive interviewing on one to one basis

#### **Training Outline**

##### Day One

1. Introductions
2. Interesting research experiences
3. Objectives for the training
4. Research ethical principles
5. Introduction to current study (see the 288 word summary)
6. Procedures and regulations
7. The National Commission for Science and innovations.
8. Parent's Consent and Child Assent
9. Sampling and appointment seeking in schools
10. How to administer a test re-test

##### Day Two

Instruments to be administered

1. Introduction to the K\_ ABEP Instrument
2. Role plays
3. Take home pilot and cognitive interviewing tasks

##### Day Three

1. Review pilot activities
2. Roles and responsibilities of the VDC
3. Timeframe and deadlines
4. Terms of reference and contract signing
5. Final Plenary

Appendix B: The K\_ABEP Optimized Scale.

**DO NOT WRITE YOUR NAME ON THIS PAPER**

Date \_\_\_\_\_

**Answer the Questions and hand back the Paper**

**Part I: Personal Information**

1. In which city do you attend school?
  - a) Mombasa
  - b) Nairobi
  - c) Kisumu
  
2. Please write the name of your home County \_\_\_\_\_
  
3. What is your age in years
  - a) 13
  - b) 14
  - c) 15
  - d) 16
  - e) 17
  - f) 18
  
4. Please write the number of years you have lived in the city where you attend school?
  - a) Up to 2
  - b) 3 – 4
  - c) 5 – 7
  - d) Over 8
  
5. What is your class level
  - a) Standard 7
  - b) Standard 8
  - c) Form 1
  - d) Form 2
  - e) Form 3
  - f) Form 4
  
6. Your sex
  - a) Male
  - b) Female
  
7. Order of birth
  - a) First born
  - b) Middle child
  - c) Last born
  - d) Single child in your family
  
8. Parents' marital status
  - a) Single
  - b) Married
  - c) Divorced
  - d) Separated
  - e) Widowed
  
9. Mother's occupation
  - a) Employed
  - b) Self-employed
  - c) Unemployed
  - d) Deceased



10. Father's occupation
- a) Employed
  - b) Self-employed
  - c) Unemployed
  - d) Deceased

11. Guardian's occupation
- a) Employed
  - b) Self-employed
  - c) Unemployed
  - d) Not applicable

12. Religious affiliation
- a) Christian
  - b) Muslim
  - c) Traditionalist
  - d) Other Specify \_\_\_\_\_

13. What kind of school are you attending?
- a) Public school
  - b) Private school
  - c) Harambee (Community Development Fund (D) School)

14. Which of the following best describes your school?
- a) Boys day
  - b) Girls day
  - c) Boys and girls mixed day
  - d) Boys boarding
  - e) Girls' boarding
  - f) Boys and girl mixed boarding

15. A What is your school attending status
- a) A day student
  - b) A boarding Student

**Part II: Please answer ALL the questions below.**

- i. Select the answer that best describes your experiences during the last three months.
- ii. There is no **right** or **wrong** response.
- iii. Be as honest as you can.

		Strongly Agree	Agree	Mildly Agree	Mildly Disagree	Disagree	Strongly Disagree
19	I cry a lot when I am alone	A	B	C	D	E	F
21	I feel sorry about my life	A	B	C	D	E	F
23	I feel helpless with my life	A	B	C	D	E	F
24	I think thoughts of suicide	A	B	C	D	E	F
26	I feel like I am cursed to fail in life	A	B	C	D	E	F
29	At night, I am unable to stay asleep	A	B	C	D	E	F
		Strongly Agree	Agree	Mildly Agree	Mildly Disagree	Disagree	Strongly Disagree
31	I have difficulties in making decisions	A	B	C	D	E	F
32	People have been gossiping about me	A	B	C	D	E	F
35	My family would be happier without me	A	B	C	D	E	F
36	Minor things easily distract me	A	B	C	D	E	F
37	I am unable to concentrate on my work	A	B	C	D	E	F
38	I feel like my heart might stop at any time	A	B	C	D	E	F
39	I feel dizzy like I could faint	A	B	C	D	E	F

		Strongly Agree	Agree	Mildly Agree	Mildly Disagree	Disagree	Strongly Disagree
43	I fear that I will die before my time	A	B	C	D	E	F
44	I feel like my thoughts run in a nonstop manner	A	B	C	D	E	F
48	I get angry over minor things	A	B	C	D	E	F
49	I find it difficult to remember things	A	B	C	D	E	F
51	I use drugs	A	B	C	D	E	F
54	I have difficulties staying attentive	A	B	C	D	E	F
		Strongly Agree	Agree	Mildly Agree	Mildly Disagree	Disagree	Strongly Disagree
57	I like to start fights with others	A	B	C	D	E	F
58	I like to hurt domestic animals	A	B	C	D	E	F
59	I have been suspended from school for fighting	A	B	C	D	E	F
60	I lead others into trouble	A	B	C	D	E	F
62	I have difficulties in coping with my schoolwork	A	B	C	D	E	F
63	I keep friends who get me into trouble	A	B	C	D	E	F

**The End.**

**Thank you so much for your time and cooperation**

**Appendix C: Counties Represented in the Survey by Number of Participants**

1	Baringo	0	21	Lamu	9	41	Tharaka Nthi	1
2	Bomet	3	22	Machakos	16	42	Trans Nzoiya	4
3	Bungoma	14	23	Makueni	18	43	Tarkana	1
4	Busia	21	24	Mandera	2	44	Uasin Gishu	1
5	Elgeyo Marakwet	0	25	Marsabit	1	45	Vihiga	16
6	Embu	8	26	Meru	4	46	Wajir	2
7	Garissa	2	27	Migori	25	47	West Pot	0
8	Homa Bay	38	28	Mombasa	282	48	Null	95
9	Isiolo	2	29	Muranga	12		Internationals	
10	Kajiado	44	30	Nairobi	175	1	Southern Sudan	1
11	Kakamega	55	31	Nakuru	22	2	Ethiopia	1
12	Kericho	2	32	Nandi	5	3	Jamaica	2
13	Kiambu	36	33	Narok	3	4	Saudi Arabia	1
14	Kilifi	17	34	Nyamira	6	5	Uganda	2
15	Kirinyaga	3	35	Nyandarua	13	6	Somalia	1
16	Kisii	25	36	Nyeri	13	7	Iran	1
17	Kisumu	351	37	Samburu	0	8	Tanzania	1
18	Kitui	17	38	Siaya	68			
19	Kwale	8	39	Taita Taveta	19		Total	1473
20	Laikipia	4	40	Tana River	0			

## **Appendix D: VDC Memorandum of Understanding**

Date.....

To: .....

Address.....

Tel.....Email.....

### **Re: Offer for Provision of Service as a Lead Volunteer (LV)**

#### Part I: Definition of Terms

- |   |  |
|---|--|
| 1. National Commission for Science, Technology and Innovation (NCSTI) Institution | The National Research authorizing  |
| 2. Principal Investigators (PI)   | NCSTI Authorized Principal Investigator                                      |
| 3. Volunteer Data Collector (VDC)   | Data Clerk for the study assisting   |
| 4. Lead Volunteer (LV)  | Lead volunteer in data collection  |
| 5. Study Project disorders among  | Assessment of behavior and emotional adolescents aged 13 – 18 Years in Kenya |
| 6. Study Locations Kisumu   | The cities of: Nairobi, Mombasa and  |
| 7. Study Samples locations  | Primary and high schools within the study                                    |
| 8. Study Instruments and scantrons etc)   | Data collection tools (E.g. questionnaires                                   |
| 9. Study Material pertaining to the study   | All that product in ALL and FORM   |
| 10. Collaborating Institutions (UCSB)   | University of California Santa Barbara                                       |
| (USIU–K)  | United States International University –                                     |

#### **Part II. Introduction to the Offer**

As the Principal Investigator, I am pleased to offer you an opportunity to serve as Lead Volunteer in data collection (LV) in a study under the auspices UCSB, with USIU- (K) as a local affiliate. The PI has been dully authorized by the NCSTI. The details of this offer are outlined hereunder:

### **A. Purpose and Scope of Study**

The purposes of the present study are threefold.

- 1) First, the study will assess the prevalence of behavioral and emotional disorders among Kenyan adolescents aged 13 to 18 years.
- 2) Secondly, the study will evaluate the level of awareness and perceptions by same age category of adolescents of mental disorders.
- 3) Thirdly, it is the intension of the study to test the psychometric validity and utility of the new instrument independently developed and used in this study. This is in anticipation of developing a culturally sensitive and psychometrically versatile instrument for the primary purpose of enhancing adolescents' screening for psychological disorders in schools, health facilities, faith-based institutions, and by other care providers.

### **B. Basic Requirements and Preliminary Preparations for the Offer as LV**

- 1) Have a University level education preferably in the social sciences.
- 2) Attend pre-data collection training workshop series organized and facilitate by the PI.
- 3) Upon the training described in item B 2, you must demonstrate to the satisfaction of the PI your competency, commitment and willingness to serve as a LV
- 4) Be available and ready for deployment to any or all the study locations
- 5) Be willing to lead a maximum of three VDCs under the supervision of the PI
- 6) Be in good health
- 7) Demonstrate previous experience in research activities especially in data collection.
- 8) Demonstrate excellent teamwork skills
- 9) Be of good moral standing in evidenced by good character and engagement in community leadership.
- 10) Be a role model especially among peers, adolescents and the community in general.

### **C. Role and Responsibilities as a LV**

- 1) Be a liaison between the VDCs and the study site administrators as indicated in the NCSTI letter of study authorization
- 2) Assist in identifying the social economic status (SES) of sampled participating institutions – (Refer to the training handout)
- 3) Identify and approach the head of sampled school authorities for purposes of securing an appointment for data collection
- 4) Set up itineraries for data collection within the study sites prior to deploying the VDCs
- 5) Be involved in other activities that are directly to the study as guided by the PI
- 6) Be responsible and accountable for all study materials entrusted to you by the PI
- 7) Ensure total adherence to all research ethical principles as discussed during the training. (Please refer to your notes and handout)
- 8) Provide daily progress reports to the PI no later than 18:00 hrs.
- 9) You will personally oversee the administration of the following instruments to the identified respondents
  - a) Parent consent for child to participate in the study before actual data collection activity
  - b) Child assent to participate in the study before actual data collection activity
  - c) The K\_ABEP Instrument to 500 respondents
  - d) Conduct a test-retest with 60 respondents as provided in the training handout
  - e) Administer a cognitive interviewing with ONE respondent using The K\_ABEP Instrument

### **D. Assignment Period**

The LV services will be required for ANY TWO - DAYS during the week starting January 12<sup>th</sup> – 18<sup>th</sup>, 2014. The LV in consultation with the VDCs will determine the two days. It is required that prior to proceeding to study sites, the LV should submit the itinerary to the PI. The details of the submission must include the full names of the school accepting the request for participation in data collection activity, the school's SES status, contact person, telephone number, and possibly the email address.

**E. Training Venue and Dates**

The pre-data collecting training will be conducted at the YMCA H/Q Nairobi on January 4<sup>th</sup>, 5<sup>th</sup> and 7<sup>th</sup> starting 5 pm. Logistic meetings will be held on January 9<sup>th</sup>, and 12<sup>th</sup> at the YMCA H/Q Nairobi between 4 – 6 pm.

**F. Expectations from the LV**

- 1) Plan for your own travel and accommodation in the event you will be assigned to either Mombasa or Kisumu study sites
- 2) Provide high quality and acceptable professional conduct
- 3) Strictly observe research ethical principles (refer to the training handout)
- 4) Email daily updates of your observations during the course of data collection
- 5) Write brief report, no more than 250- 300 words regarding your overall experience as LV.
- 6) Attend all meetings requested by the PI in fashionable.
- 7) Provide support and guidance to the VDCs at any time during the process of data Collection
- 8) Ensure that ALL research protocols (including used instruments) are properly catalogued before submission to the PI
- 9) Fill and turn in the evaluation card attached to this contract in unmarked\_white envelope to the PI no later than Jan 17, 2014 at 5:00 pm
- 10) That the PI may request your services in the post date collection period
- 11) The Nairobi team (VDCs and LV) will audit the protocols from the study sites to ascertain their respective status

**G. Personal and Property Safety**

Please be sure that you are unilaterally responsible for the equipment that you may use in the course of this assignment. The PI and by extension the collaborating institutions have a NAUGHT indemnity for any damage or loss to you and or your property.

**H. Restriction on use of Privileged Study Information**

All materials produced or acquired under the terms of this offer shall remain the custody of the PI. All the materials should be turned in to the PI no later than January 17, 2014 at 5:00 pm. You shall treat all knowledge and information that is not within the public domain, and which you may acquire from this study or the study's teammates as confidential during and after the conclusion of this service.

**I. Liaison and Contact Person**

Unless otherwise stated in this contract, you will work very closely with PI, to whom you shall submit your assignment returns and receive your travel, accommodation and meals allowances as apply in section J below.

**J. The LV's Facilitation**

The following shall apply as facilitation and related gains upon accepting this offer

- 1) Transport: Ksh three thousand five hundred only (Ksh. 3,500) as return ticket to and from Mombasa
- 2) Transport: Ksh three thousand only (3,000) as return ticket to and from Kisumu

- 3) Accommodation: Ksh four thousand five hundred (4,500) for three nights in both Mombasa and Kisumu
- 4) Self upkeep: Ksh. fifteen thousand only (15,000)
- 5) Miscellaneous LV responsibilities: Ksh two thousand only (2000)
- 6) Free training and meals/snacks while attending the training
- 7) A certificate of participation as research assistant from UCSB

**K. Breach of Agreement**

In the event of a breach of the above understandings, the aggrieved party will be compensated with an amount of money not less than the equivalent indicated in item in section J, and not less in kind than the equivalent of the same.

Part II: Acknowledgement of offer

I \_\_\_\_\_ have conscientiously read and understood the terms of offer as stipulated in this contract given to me by the PI. In a sober, informed state of uninfluenced mind, I decline / accept this offer (Delete where not applicable.)

Name..... ID No.....

Sign ..... Date.....

---

For Official Purposes

Received and authorized by PI : \_\_\_\_\_ Sign \_\_\_\_\_  
 Date \_\_\_\_\_



## Appendix E: Overall Process Evaluation (N= 6)

Module	Training Content	Outstanding	Excellent	Good	Fair	Poor
1	Introduction to the Project					
	1. Project Objectives	3	4	1	0	0
	2. Ethics in data collection	2	5	1	0	0
2	3 introduction to behavior and emotional disorders	2	4	2	0	0
	Time Management					
	1. Appropriateness Session Timing	1	1	2	2	1
	2. Keeping time	0	0	3	3	2
3	3. Ending sessions in a timely manner	0	0	1	5	2
	Orientation to data collecting	3	4	1	0	0
	Instruments	3	4	1	0	0
4	Orientation to data collecting procedures	3	4	1	0	1
	1. NCSTI Authorization	3	4	1	0	1
	2. Parents' consent forms	1	6	1	0	1
	3. Child assent forms	1	5	2	1	0
	4. Test - Re-test	2	2	2	0	3
	5. K_ABEP Scale	2	3	3	2	0
5	6. Instructions for use of Scantrons	5	2	0	0	0
	Data Collection Experience					
	1 Travel arrangements	2	3	1	0	1
	2. local travelling	1	4	1	0	1
	3. Accommodation	3	3	0	2	1
	4. Advance site preparations	2	1	2	1	1
6	5. Local support by education officials	3	2	1	0	0
	6. Local support by school administration	5	2	0	0	0
7	Respondents' cooperation					
	1. Primary school respondents	0	3	1	2	0
8	2. High School respondents	0	5	1	0	0
	VDCs' facilitation allowance					
	1. travelling	2	3	0	2	0
8	2. Accommodation	1	3	2	1	0
	3. Upkeep	2	3	0	1	0
8	Please provide any other relevant information					
	1	1				
	2	2				
	3	3				
	4	4				

## List of Tables

Table 1

### Characteristics of Participating Schools

Study Catchment Site		Socio- Economic Status (SES)*			Total
City	School	Low SES	Average SES	High SES	
Mombasa	Primary	1	0	1	2
	High	1	1	1	3
Nairobi	Primary	1	2	1	4
	High	1	2	3	6
Kisumu	Primary	1	1	1	3
	High	1	1	1	3
Grand Total		6	7	8	21

Note: \* Information regarding SES of the school was provided without prejudice by respective authorities during sampling process.

Table 2

*Optimized Subscales and Item Loadings*

Subscale	Items	Components'		
		1	2	3
Cognitive/Attention Problems (CAP) (Nine Items)	I have difficulties staying attentive [54]*	0.71		
	Minor things easily distract me [36]*	0.68		
	I have difficulties in making decisions [31]*	0.64		
	I find it difficult to remember things [49]*	0.62		
	I am unable to concentrate on my work [37]*	0.61		
	I feel like my thoughts run in a nonstop manner [44]*	0.54		
	I get angry over minor things [48]*	0.52		
	I have difficulties in coping with my schoolwork [62]*	0.48		
	People have been gossiping about me [32]*	0.40		
Depression/Anxiety Problems (DAP) (10 Items)	I feel helpless with my life [23]*		0.67	
	I think thoughts of suicide [24]*		0.63	
	I feel sorry about my life [21]*		0.60	
	I feel like I am cursed to fail in life [26]*		0.60	
	I cry a lot when I am alone [19]*		0.60	
	I feel dizzy like I could faint [39]*		0.54	

	I feel like my heart might stop at any time [38]*	0.53
	At night, I am unable to stay asleep [29]*	0.48
	I fear that I will die before my time [43]*	0.48
	My family would be happier without me [35]*	0.47
Conduct/Disruptive	I lead others into trouble [60]*	0.75
Problems (CDP)	I like to start fights with others [57]*	0.74
(Six items)	I have been suspended from school for fighting [59]*	0.71
	I use drugs [51]*	0.63
	I like to hurt domestic animals [58]*	0.62
	I keep friends who get me into trouble [63]*	0.45

Note: \* Number in brackets reflects the exact item number as appeared in the instrument

Table 3

*Internal Consistency: Corrected Total Item Correlation Cronbach's Alpha Reliability Coefficient*

Sub-scale	Items	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted	Subscale's Cronbach Alpha
Cognitive and Attention	I have difficulties staying attentive [54]*	0.61	0.76	
	Minor things easily distract me	0.52	0.77	

Problems	[36]*		
(CAP) (Nine	I have difficulties in making	0.52	0.77
Items)	decisions [31]*		
	I find it difficult to remember things	0.5	0.77
	[49]*		
	I am unable to concentrate on my	0.53	0.77
	work [37]*		
	I feel like my thoughts run in a	0.46	0.78
	nonstop manner [44]*		
	I get angry over minor things [48]*	0.41	0.78
	I have difficulties in coping with my	0.43	0.78
	schoolwork [62]*		
	People have been gossiping about	0.36	0.79
	me [32]		
			0.79
Depression			
and	I feel helpless with my life [23]*	0.56	0.77
Anxiety			
Problems	I think thoughts of suicide [24]	0.52	0.77
(DAP) (10			
Items)	I feel sorry about my life [21]*	0.45	0.78
	I feel like I am cursed to fail in life	0.53	0.77
	[26]*		

	I cry a lot when I am alone [19]*	0.39	0.79	
	I feel dizzy like I could faint [39]*	0.49	0.77	
	I feel like my heart might stop at any time [38]*	0.48	0.78	
	At night, I am unable to stay asleep [29]*	0.42	0.78	
	I fear that I will die before my time [43]*	0.46	0.78	
	My family would be happier without me [35]*	0.39	0.79	
				0.8
Conduct and Disruptive Problems (CDP) (Six Items)	I lead others into trouble [60]*	0.6	0.7	
	I like to start fights with others [57]*	0.6	0.7	
	I have been suspended from school for fighting [59]*	0.55	0.71	
	I use drugs [51]*	0.46	0.73	
	I like to hurt domestic animals [58]*	0.46	0.73	
	I keep friends who get me into trouble [63]*	0.37	0.74	

Note: [ ]\* *Number in brackets reflects the exact item number as appeared in the instrument*

Table 4

*Total Variance Explained by Optimized Subscales*

Subscale Component	Total Variance Explained		
	Rotation Total	Sums of Squared Loadings % of Variance	Cumulative %
CAP	3.52	14.09	14.09
DAP	3.50	14.03	28.12
CDP	2.98	11.92	40.04

Note: CAP = Cognitive and Attention Problems; DAP = Depression and Anxiety Problems; CDP = Conduct and Disruptive Problems.

Table 5

*K\_ABEP Scale Variability (N= 1473)*

Scale Component	M/SD	Min	Max	Skewness	Kurtosis
CAP	2.07(1.07)	0	5	0.17	- 0.56
DAP	1.17(0.95)	0	5	0.94	0.52
CDP	0.8(0.91)	0	5	1.61	2.79
Full Scale	3.27(1.79)	0	10.05	0.45	- 0.24

Note: CAP = Cognitive and Attention Problems; DAP = Depression and Anxiety Problems; CDP = Conduct and Disruptive Problems K\_ABEP = Kenya Adolescents Behavior and Emotional Problems

Table 6

*K\_ABEF Subscale Pearson's Bivariate Correlations*

		Sample Score T 1	Sample Score T 2
T1_Sample Score	Pearson Correlation		.55**
	Sig. (2-tailed)		.001
	N	56	52

Note. T 1 = Time 1 sample score; T 2 = Time 2 sample score.

\*\*p > .001

Table 7

*Scale Sample Descriptive Analysis*

Sample Score	M/SD	Skewness	Kurtosis
T_1	8.12/1.43	-0.39	-0.72
T_2	8.25/1.37	-0.42	-0.66

Note: M = Mean Score; SD = Standard Deviation; T\_1 = Scale's Sample Time 1; T\_2 = Scale's Sample Time 2.

Table 8

*Paired Scale t test Sample Means and Standard Deviation in Time 1 and 2*

		95% CID						
Composite Sample Scores		M/SD	Lower	Upper	t	df	Sig. (2-tailed)	
Pair 1	Time _1 – Time _2	-0.22/1.32	0.59	0.15	-1.19	51	0.24	

Note: M = Mean Score; SD = Standard Deviation; T\_1 = Scale's Sample Time 1; T\_2 = Scale's Sample Time 2; CID = Confidence Interval of the Difference.



Table 9

*CAP, DAP and CDP Subscales Pearson's Correlations*

	CAP_T1	DAP_T1	CDP_T1
CAP_T2	.44**		
DAP_T2		.74**	
CDP_T2			.29*

Note. CAP\_T1 = Cognitive Attention Problems - Time 1; CAP\_T2 = Cognitive Attention Problems - Time 2; DAP\_T1 = Depression and Anxiety Problems -Time 1; DAP\_T2 = Depression and Anxiety Problems -Time 2; CDP\_T1 = Conduct Disruptive Problems -Time 1; CDP\_T2 = Conduct Disruptive Problems -Time 2.

\*p < .05, \*\* p < .001

Table 10

*K\_ABEPSubscale Time 1 Sample Descriptive Statistics: N= 56*

Sample Score	M/SD	Min	Max	Skewness	Kurtosis
CAP_T1	3.49 (0.99)	1.56	5	-0.14	-0.96
DAP_T1	4.46 (0.59)	2.90	5	-1.04	0.30
CDP_T1	4.48 (0.79)	1.67	5	-2.02	3.89
Comp_T1	4.11 (0.64)	2.72	5	-0.51	-0.59

Note. CAP\_T1 = Cognitive and Attention Problems Time 1; DAP = Depression and Anxiety Problems Time 1; CDP\_T1 = Conduct Disruptive Problems Time 1; Comp\_T1= Composite Time 1; M =Mean; SD = Standard Deviation; Min = Minimum; Max = Maximum

Table 11

*K\_ABEP Subscale Time 2 Sample Descriptive Statistics: N= 52*

Sample Score	M/SD	Min	Maxi	Skewness	Kurtosis
CAP_T2	3.58 (0.98)	1.56	5	-0.24	-0.83
DAP_T2_	4.49 (0.56)	2.9	5	-1.11	0.66
CDP_T2	4.5 (0.79)	1.67	5	-2.12	4.41
Comp_T2	4.17 (0.62)	2.72	5	-0.55	-0.50

Note. CAP\_T2 = Cognitive and Attention Problems Time 2; DAP = Depression and Anxiety Problems Time 2; CDP\_T2 = Conduct Disruptive Problems Time 2; Comp\_T2= Composite Time 2; M =Mean; SD = Standard Deviation; Min = Minimum; Max = Maximum

Table 12:

*K\_ABEP Full Scale Item Means and Standard Deviation; N = 1473, Range = 5*

Scale Item	M	SD
I cry a lot when I am alone [19]*	1.34	1.62
I feel sorry about my life [21]	1.5	1.82
I feel helpless with my life [23]	1.07	1.49
I think thoughts of suicide [24]	0.98	1.55
I feel like I am cursed to fail in life [26]	1.04	1.52
At night, I am unable to stay asleep [29]	1.27	1.58
I have difficulties in making decisions [31]	2.39	1.76
People have been gossiping about me [32]	2.25	1.72
My family would be happier without me [35]	1.05	1.61
Minor things easily distract me [36]	2.47	1.76

I am unable to concentrate on my work [37]	1.81	1.69
I feel like my heart might stop at any time [38]	1.17	1.6
I feel dizzy like I could faint [39]	1.1	1.5
I fear that I will die before my time [43]	1.22	1.66
I feel like my thoughts run in a nonstop manner [44]	2.06	1.85
I get angry over minor things [48]	2.37	1.82
I find it difficult to remember things [49]	1.94	1.68
I use drugs [51]	0.72	1.45
I have difficulties staying attentive [54]	1.8	1.67
I like to start fights with others [57]	0.77	1.27
I like to hurt domestic animals [58]	0.74	1.21
I have been suspended from school for fighting [59]	0.55	1.17
I lead others into trouble [60]	0.83	1.34
I have difficulties in coping with my schoolwork [62]	1.52	1.65
I keep friends who get me into trouble [63]	1.21	1.6

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Note. M= Mean, SD = Standard Deviation

\* *Number in brackets reflects the exact item number as appeared in the instrument*