



THE PREVALENCE OF COGNITIVE DISTORTIONS AMONG MALES EXPOSED TO WAR TRAUMA IN ZINA VILLAGE, BUBANZA DIOCESE, REPUBLIC OF BURUNDI

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Abstract: *This study investigated the prevalence of cognitive distortions among males exposed to war trauma in Zina, Bubanza diocese, Republic of Burundi. The study was guided by Aaron Beck's Cognitive theory and adopted convergent mixed method research design. The objective that guided this study was to determine the prevalence of cognitive distortions among males exposed to war trauma in Zina, Bubanza diocese. The sample size was 83 males, sampled using purposive sampling method. The respondents comprised of 83 males who were exposed to war trauma from a target population of 106 persons. Six (6) of the respondents selected using purposive sampling out of the 83 males took part in face to face interview. The study used questionnaire and interview guide to collect data. The quantitative data were, analyzed with descriptive and inferential statistics, presented in percentages and frequencies. Qualitative data were coded according to emerging themes following the research objective. Findings revealed that, two cognitive distortions namely fortune telling and mind reading were identified at 100% while 8 others including overgeneralization, magnification/minimization and should statement be detected at more than 90%. In conclusion, the there is a higher prevalence of cognitive distortions among males exposed to war trauma in Zina, which ranged from 65% to 100% with an average of 91.4%. The researcher recommends to political and religious authorities to intensify efforts for integrative formation and create enabling environment for Zina inhabitants to cater for their psychosocial health and needs that were unattended to by their families and help them to untwist their cognitive distortions through civic education and process of psycho-spiritual therapy and counseling interventions.*

Key words: *Cognitive distortions, male, exposure, war trauma*

1.1 Background of the Study

Cognitive distortions are among factors that influence people's morality and behavior. Aaron Beck was the first psychiatrist to use this concept of cognitive distortion in his 1960s publications on

cognitive behavioral therapy. Beck discovered that, depressive individuals frequently reported having automatic thoughts. These thoughts were characterized by negative self-perceptions (for example: nobody likes me), of the environment around them (for example: I am useless), and of the future (for example: I am hopeless and can't change). The cognitive triad of depression was then named after this pattern of thoughts. It was an outburst of negative ideas that was automatic, spontaneous, and apparently uncontrollable. Nonetheless, Beck describes cognitive distortion as the automatic idea that forms the feeling experienced (fear, irritation, excitement) and the associated action, rather than every automatic thought that might come into anyone's head (escape, confrontation, warm greeting). Cognitive distortions associated with these pop-up, automatic ideas that are magnified and form a core belief led to one's emotional and behavioral reactions, more than the circumstance itself. Thus, Beck defined cognitive distortion as "idiosyncratic thought content suggestive of distorted or unrealistic conceptualizations" (Beck, 1963, p. 324) or "a specific thought, such as an interpretation, a self-command, or self-criticism" (Beck, 1963, p. 324- 326). According to Barriga et al (2001), cognitive distortions are erroneous or biased ways of attending to or applying meaning to everyday situations.

Two questions related to this concept remain to be clarified: First, is the notion of cognitive distortion related to gender; second, is the notion of cognitive distortion related to war trauma. Regarding the first question, research has not yet shown whether there are cognitive distortions specific to males and others specific to females. In their article on the question of cognitive distortions, Caouette and Guyer (2016) affirms that, males are usually more in demand in war than females. While both male and female genders are exposed to traumatic events, research has yet to determine with clarity which gender manifests cognitive distortions more than the other. However, according to the findings of various surveys of lifetime exposure to traumatic events, males are more likely than women to be subjected to stressful experiences, particularly when it comes to war.

Cognitive distortions are linked not only to war trauma, but to any event that can cause depression or anxiety. Furthermore, as Maruna and his companions (2006) pointed out, for the past 30 years, the notion of cognitive distortion has been enshrined in offending and criminology literature especially sexual offending and criminology and has been perceived as "criminal thinking"(p 162). According to Sharp, (2006), indeed, when people are asked why they did something, they usually respond with a causal attribution in a way that they attribute a cause to their behavior by describing what they believe caused the behavior, or they give a reason for their behavior by describing what they were trying to achieve through that behavior. It has been shown that rather than internalizing personal responsibility, people would strive to justify their actions by looking for external, unstable, and explanations.

This subject of cognitive distortions is neither the current researcher's invention nor a reserve of Aaron Temkin Beck. It has aroused the curiosity of many researchers and has already been dealt with in different corners of the world as evidenced by Guglielmo's researches which resulted in 24 propositions concerning the concept of cognitive distortion and 567 possible worlds of semantics present within the literature (Guglielmo, 2015).

A group of academicians in the United States and Canada (Bollen et al., 2021) recently presented stunning statistics on the rise of cognitive distortions in recent decades by evaluating 14 million books produced from 1855 to 2019, or 125 years. Given that their prevalence measurements count only the cognitive distortions n-grams occurrence regardless of context, they defined 241 n-grams to mark 12 commonly distinguished types of cognitive distortions. Here is what they discovered as a result: From 1899 to 1978, there were slight rises of drop around 1914 and 1940 (World War I and World War II), as well as in 1968. This drop was followed by a rise in the prevalence of cognitive distortions, which began in 1978 and continued to this day. Boyes (2013) compiled a massive list of 50 prevalent cognitive distortions in that geographical area.

The same researchers concentrated their efforts in European nations on two language groups: Spanish-speaking countries and German-speaking countries and defined 731 n-grams to mark 12 commonly distinguished types of cognitive distortions. They found also constant levels of cognitive distortions for Spanish from 1895 until the early 1980s, after which there was a tendency toward larger Cognitive distortions prevalence levels than any previously documented. They demonstrated consistent levels of cognitive distortions prevalent among Germans, with the exception of high peaks before and after World Wars I and II, until 2007, when a rapid rise occurred (Ballen et al., 2021). In terms of statistics on common cognitive distortions in that continent, the following typologies with 15 cognitive distortions distinguish between a number of partially overlapping types were discovered: catastrophizing, dichotomous reasoning, disqualifying the positive, emotional reasoning, fortune telling, labeling, mislabeling, magnification, minimization, mental filtering, mind reading, overgeneralizing, personalizing, blaming others, and should statements.

Moreover, the following factors were highlighted in the two continents: Firstly, the findings suggest that recent socioeconomic developments, new technologies, and social media may be linked to an increase in cognitive distortions. Secondly, depression is a major cause of disability across the world, and those who suffer from internalizing illnesses have significantly more cognitive distortions in their language. The researchers concluded by posing a pertinent question: Can civilizations grow more or less depressed over time as a result of stresses like war, political instability, economic collapse, food poverty, inequality, and disease?

Looking at the studies in Africa the researcher has noticed 15 specific typologies of cognitive distortions even if largely similarity exist with those of other continents. Here, follows a list of misconceptions highlighted by Kelland & Sanchez (2018) namely: i) Africa is and always will be impoverished. ii) That Africa is made up entirely of savannah and wild animals. iii) That Africa is perpetually hot, dry, and sunny. iv) Africans do not have access to advanced technologies. v) That Africa should aspire to be like the West in order to progress. vi) In Africa, there is no arts industry. vii) Africans are powerless to assist themselves. viii) The fact that African is a language (and that Africans do not speak English). ix.) Africa isn't all so huge. x) African guys are constantly armed with machine guns. xi) That AIDS affects everyone in Africa. xii) That all African governments are awful. xiii) In Africa, everyone lives in a mud hut in the middle of nowhere. xiv) That Africa is a party-free zone. xv) That everything in Africa is doom and gloom. These false stereotypes about African countries demand special attention.

In South Africa for example, Adewoye (2020), conducted a study of learning to question the validity and actuality of errors in the bystanders' thinking patterns and revealed that the self-debasing cognitive distortions restructuring intervention modified their experiences of school bullying. Their negative emotional and behavioral reactions to witnessing bullying were reduced.

Also, in West Africa, a study was carried out in Ghana in the school field by a team of researchers (Nyarko, et al., 2014). The findings revealed that cognitive distortions manifest themselves in regular moods of depression with a significant positive relationship of 70 percent.

In Eastern Africa, especially in Ethiopia, Abera et al. (2016) found that socio-demographic characteristics such as age, sex, academic year level, and admission type had a significant influence on cognitive distortions. These authors showed how in that part of Africa, dysfunctional beliefs about sexual abstinence, mutual monogamy, and condom manifest with a positive relationship of 72 percent.

Regarding Cognitive Distortions in Burundi, in general and in Zina, two documents caught the attention of the researcher about that topic of cognitive distortions: A book of proverbs in Kirundi published by a former missionary of Africa, Rodegem (1961) and an article written by a great intellectual, the former vice-president of Burundi Dr Gervais Rufyikiri (2021) in which he denounces some Burundian cognitive distortions and predicts that they can constitute a threat for another civil war

in Burundi (Rufyikiri, 2021). What all of these cognitive distortions have in common is that they are phrased like short proverbs or sayings called in local language, ikirundi, “imyibutsa n’uducamugani.” This means that cognitive distortions are a reality in Burundi as they show up in everyday language.

1.2 Literature Review

Beck’s model of cognitive distortions

Among the authors who described the Beck’s model of cognitive distortions, David Burns (1979, 1989, 1999) is the best for being his first disciple and having continued Beck’s research on the cognitive distortions. His study design is clear. Quoting indeed stoic philosopher Epictetus at the beginning of his book titled: *Feeling good handbook*, Burns stated that men are disturbed not by things, but by the views which they take of things. From this principle, he viewed cognitive distortions in a therapeutic approach as one of the blockages that can keep a man from feeling good.

After reading the above-mentioned book the current researcher can summarize conclusions in two points: First, Burns pointed out four main ideas concerning Beck’s model of cognitive distortions as follow: One’s moods are created by their thoughts; the thoughts that are dominated by pervasive negativity cause depression; the negatives thoughts which cause depression nearly always contain cognitive distortions; the ten common cognitive distortions twist people’s thinking. Secondly, as we can see in appendices 1 and 2 at the pages 15 and 16 respectively, Burns had the merit of drawing up two tables, the first with the ten common cognitive distortions and their definitions the second with the ten ways to untwist the cognitive distortions.

Beck coined the terms cognitive distortion and cognitive therapy in 1967 after discovering a correlation between the negative thinking and the moods of his depressed patients. He proposed the original theoretical list of six cognitive distortions which comprised: 1) All or nothing thinking, 2) jumping to conclusion, 3) overgeneralization, 4) mental filter, 5) Magnification/minimization and 6) personalization, and then a number of leading CT and CBT theorists have presented various lists of cognitive distortions. Yurica (2002) for instance provided empirical evidence based on this original theoretical cognitive distortions and found support for 11 cognitive distortions, including 1) Externalization of Self- 2) Fortune Telling, 3) Magnification, 4) Labeling, 5) Perfectionism, 6) Comparison with Others, 7) Emotional Reasoning, 8) Inference/Jumping to Conclusions, 9) Mind-Reading, 10) Emotional Reasoning and 11) Decision-Making.

As for comment, this first book reviewed will support the current study for it provides clarifications of the principal concept of cognitive distortion in the sense chosen by the current researcher. However, the Burns’ book doesn’t match up to the current study in certain traits. Burns’ book aimed to cope with cognitive distortion and depression while the current study intends to cope with cognitive distortion and morality, Burns’ participants were depressed patients while participants of current study males exposed to war trauma. These are some gaps to fill.

Another study that describes well Beck’s model of cognitive distortions is that of Rosenfield, (2004). In his article written at Philadelphia College of Osteopathic Medicine, and titled: *Relationship between cognitive distortions and psychological disorders across diagnostic axes*, he devoted a whole chapter to Beck’s model of cognitive distortions. In that chapter, after showing how there are varieties of cognitive distortions, the author highlighted four elements that constitute Beck’s cognitive distortions namely: the cognitive triad, automatic thoughts, core belief and Beck’s ten axioms, as presented below:

i. Cognitive triad

Beck (1976) originally posited the theory that we are what we think about and that one's affect and behavior are powerfully influenced by one's cognition., including one's past, present, and future interpretations of oneself, the world, and one's future. This Beck's cognitive triad, often known as the negative triad, is a cognitive-therapeutic perspective on the three fundamental parts of a person's belief system that are present in depression. It entails three main elements: The self (for example: I am useless and ugly, or I wish I was someone else), the world or entire universe (for example: No one values me or people ignore me all the time) and the future (for example: I am hopeless because things will never change or will only get worse!). Below is the diagram which schematize the interaction between the three elements of cognitive triad:

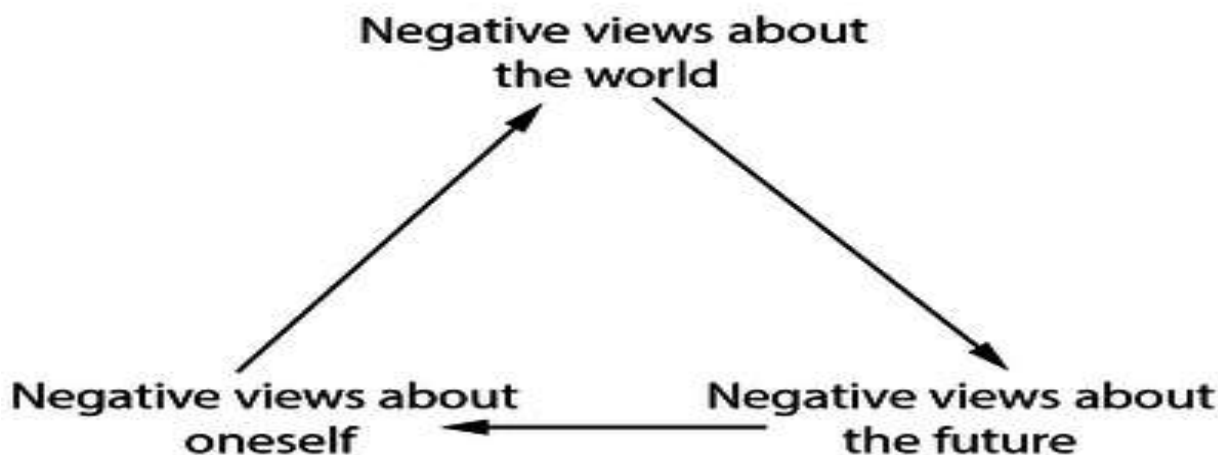


Figure 1: Cognitive triad

Beck stated that a twin process, cognitive bias and negative self-schemas, maintains the negative triad, or a negative and unreasonable view of ourselves, our future, and the world around us. Cognitive bias refers to distorting and misinterpreting information or situations, whereas a schema is a 'package' of knowledge that stores information and ideas about our self and the world around us. These schemas are formed during childhood, and depressed persons, according to Beck, have negative self-schemas resulting from unfavorable experiences such as criticism from parents, peers, or even teachers.

ii. Automatic thoughts

According to Beck's model, automatic thoughts are a kind of negative self-talk that appears immediately, without us even being aware of forming a thought, in response to a certain stimulus. They are often irrational and negative for our mental well-being. Each person's automatic thoughts may be different from the next person. They are usually related to our life experiences. Plus, our fear or messages we have internalized for years. They can be about ourselves and others. Automatic thoughts are frequently so fleeting and rapidly overcome by one's awareness of the emotions that result from them that one may not notice them all. Beck's later publications from the 1980s, described a pattern of automatic thoughts that seemed to be more uniquely related to anxiety; Clients reported greater thoughts connected to threat and danger (for example: what if something bad happens?) and incapacity to cope (for example: I am overwhelmed, I cannot go like this).

iii. Beck's Core belief

Beck et al., 2011 conducted a study to determine the validity and reliability of a new core belief measure that assesses negative core beliefs about oneself (nCB-S) and negative core beliefs about others (nCB-O) (nCB-O). This measure has adequate internal consistency and test-retest reliability, according to the findings. Factor studies verified that nCB-S and nCB-O are on different dimensions, and they suggested that nCB-S can be divided into (a) helplessness/inferiority, (b) helplessness/vulnerability, (c) unlovability, and (d) worthlessness. The scores on the nCB-S and nCB-O measures correlated strongly with reports of negative childhood experiences, attachment patterns, anxiety, and depression, as expected. These preliminary findings imply that core beliefs can be measured in a reliable and accurate way, and that core beliefs can be utilized in research to validate components of A. T. Beck's cognitive theory.

As Beck (2005) had already outlined, the study identified three types of negative core self-beliefs that can lead to cognitive distortions: helplessness, unlovability, and worthlessness. According to the findings, everyone has their own perspective on life's conditions and happenings. And when people are depressed or anxious, the substance of their automatic thoughts takes on a predictable and recognizable pattern. Two "deeper" levels of thinking impact automatic ideas, making people more subject to recurrent negative and erroneous thinking patterns. Rules, assumptions, and basic beliefs are terms used to describe these higher layers. Everyone learns some rules from an early stage. For example, one might learn rules about how to interact with others (for example, if you do not have anything nice to say, do not say anything at all); the appropriateness of expressing emotions (for example, do not ever let them see you sweat), and one's performance (for example, if you cannot do something perfectly, it's not worth trying; or I should be great at everything I do).

They may not be aware of these norms and assumptions since they are not evident to them. When people start to pay attention to their automatic thoughts in stressful situations, they notice patterns in their automatic thoughts that are linked to their underlying norms and assumptions. One's basic beliefs are at the deepest level of cognition, much deeper than one's rules and assumptions. Core beliefs are formed early in life. They are a reflection of rigid and absolute beliefs about yourself, others, and the universe, for example of positive core beliefs are: I am gorgeous, intelligent, and loveable. Examples of negative core beliefs include: I am worthless or weak; others are harmful and untrustworthy; and the world is a terrifying and overwhelming place. People with negative core beliefs. According to Aaron T. Beck, they are more likely to develop depression or anxiety than people with good core beliefs. Negative core beliefs may stay dormant and have no effect on a person's life until a stressful life event triggers them, such as a death in the family, a break- up, or a job loss.

iv. Beck's ten axioms.

The initial cognitive model changed as Beck (1997) consolidated two decades of research into a modified cognitive theory with ten "formal axioms" (p. 15). First axiom, schemas are thought of as meaning-making structures through which people perceive their surroundings in connection to themselves. Second axiom, providing meaning affects how we behave, feel, pay attention, and remember things. At both the automatic and deliberate levels, meaning assignment can occur. Third axiom, cognition, affect, and behavior are all influenced by each other. Fourth axiom, when meaning is translated into distinct patterns of attention, memory, emotion, and behavior, "cognitive content specificity" (p. 16) happens. The fifth axiom, which is particularly germane, states that because meaning is constructed by the individual, it may be incorrect in relation to specific contexts and goals. The authors state, "when cognitive distortion or bias occurs, meanings are dysfunctional or maladaptive" (p.16). Cognitive distortions may include errors in interpretation and cognitive processing, or both.

Sixth axiom, individuals are predisposed to particular cognitive distortions, leaving them predisposed to specific syndromes. This is termed cognitive vulnerabilities. Seventh axiom, psychopathology is said to result from cognitive distortions related to slightly modified cognitive triad, reflecting 17 maladaptive interpretations “regarding the self, the environmental context (experience), and the future(goals)” (p.16). Eighth axiom, events are interpreted on two levels: The public or objective level and private level. The latter incorporates generalizations, implications, and significance. Ninth axiom, “three cognitive systems” provide for three levels of cognition, including a) the automatic level (unintentional/preconscious), b) the conscious level, and c) the realistic, adaptive, rational, or meta cognitive level. Changes occurring at the conscious level primary account for process in CT. Finally, the tenth axiom posits the idea that individuals’ schemas have involved to assist them to adapt to their environments. Schemas become maladaptive only when they are out of context with the general social or physical environment.

Empirical review: Prevalence of Burundian cognitive distortions through proverbs and sayings

In the context of Burundian culture, Rodegem (1961), a missionary priest in the congregation of White Fathers of Africa, with the collaboration of a Burundian, Jean Bapfumukeko, published in Annals of the Royal Museum of the Belgian Congo, Tervuren, Belgium, a study of proverbs and sayings in the local language (Kirundi). His book written in French language was titled: "Sagesse Kirundi: Proverbes, dictons, locutions usités au Burundi.

The researcher travelled the whole country of Burundi which has about 2.5 million inhabitants at the time, to collect 4000 proverbs and sayings in Kirundi language with translation into French and an explanation as well as the closest French proverb. Appendix 3 shows some examples of these Burundians proverbs or sayings that convey cognitive distortions. In order to reassure himself that cognitive distortions are a reality in the lives of males exposed to war trauma in Zina, the researcher did not content himself with written sources only. He also organized a face-to-face interview by asking the participants to formulate proverbs and sayings relating to what they experienced during the civil war of the years 1996 and 2000 and the result was interesting. The participants repeated almost all the proverbs found in Rodegem's book, but with a certain number of somewhat special proverbs or sayings. Among them indeed, a set of 8 new forms of proverbs or sayings, as shown in appendix 4 on page 18, deserves attention of any reader since they were new in comparison to the 4000 proverbs or sayings inventoried by Rodegem (1961) and not found in the list of the 15 common cognitive distortions already analyzed. A reader who knows the background of Burundi, can understand firstly that some cognitive distortions conveyed by them were likely developed during the post-colonial era after 1962. Secondly, he can notice their general characteristics imbued by a socio-ethnic and regional mistrust which was consecutive to the advent of the political multiparty system of the 1990s.

From the above assertions, cognitive distortions that develop as a result of traumatic events or other great conflicts which change the life style of a certain number of Burundians and which have entered everyday language and life style of males exposed to war trauma in Zina. Most of them are phrased like short proverbs or sayings called “*imyibutsa n’uducamugani*” in local language, “*Ikirundi*”. They apply to the current study since they convey a distorted way of thinking that can lead to a behavior no accepted by the society. All these cognitive distortions can be summed in the two appendices already indicated and drawn according to the classification of Dawes (1964) who states that «cognitive distortion is classified as either overgeneralization-belief that a disjunctive relation is nested or pseudo-discrimination-belief that a nested relation is disjunctive» (p.443). In accordance to the latter classification, the current researcher used initial letters (O or P) for the presentation of each type of

cognitive distortions, where O means overgeneralization-belief that a disjunctive relation is nested, and P, pseudo-discrimination-belief that a nested relation is disjunctive.

1.3 Methodology

This study adopted convergent mixed methods research by combining Cognitive distortions questionnaire (CD-Quest) and face to face interview guide. This questionnaire and interview helped the researcher to assess information relating to cognitive distortions from males exposed to war trauma in Zina and to be able for summarizing the data obtained in the field. Then, quantitative data from the closed-ended items in the questionnaire were analyzed using descriptive statistics such as frequencies, percentages, means and standards variations while the information from qualitative data confirmed the reality of cognitive distortions in everyday life of Zina’s inhabitants. The Statistical Package for Social Sciences (SPSS) was used as an aid for quantitative and thematic analysis.

1.4 Findings and Discussion

The study findings were based on the assessment of cognitive distortions using Cognitive Distortions Questionnaire (CD-Quest). This instrument measures 15 subscales namely: Dichotomous thinking, Fortune telling, discounting positive, Emotional reasoning, Labeling, Magnification/minimization, Selective abstraction, Mind reading, Overgeneralization, Personalizing, should statement, jump to conclusion, Blaming, What if? and Unfair comparisons. The instrument scored the participants at the ranges of 1 to 5. Those who scored 1-2 have lower frequency of the subscales whereas participants who scored within 3-5 were classified as higher frequency of the subscales of cognitive distortions. Therefore, the data on cognitive distortions among the participants are as presented below:

Table 1: Prevalence of cognitive distortions among the participants

Cognitive distortions subscales	1-2 = Lower frequency	3-5 = Higher frequency
Dichotomous thinking	15 (18.8)	65 (81.3)
Fortune telling	0 (0.0)	80 (100.0)
Discounting positive	13 (16.3)	67 (83.8)
Emotional reasoning	12 (15.0)	68 (85.0)
Labeling	4 (5.0)	76 (95.0)
Magnification/minimization	4 (5.0)	76 (95.0)
Selective abstraction	3 (3.8)	77 (96.3)
Mind reading	0 (0.0)	80 (100.0)
Overgeneralization	5 (6.3)	75 (93.8)
Personalizing	4 (5.0)	76 (95.0)
Should statement	1 (1.3)	79 (98.8)
Jump to conclusion	12 (15.0)	68 (85.0)
Blaming	5 (6.3)	75 (93.8)
What if ?	18 (22.5)	62 (77.5)
Unfair comparisons	8 (10.0)	72 (90)

Source: Field data, 2022

Table 1 shows the prevalence of cognitive distortions among the participants. The prevalence of dichotomous thinking for example was found to be at 81.3% as against those who do not present with dichotomous thinking at 18.8%. Dichotomous thinking in this study means that one views a situation, a

person or an event only in all-or-nothing terms, fitting them into only 2 extreme categories instead of on a continuum. This implies that majority of males exposed to war trauma in Zina, at 81.3%, are dichotomous in their thinking.

Further, as regards fortune telling and mind reading, all the participants at 100% were found to have cognitive distortions in subscale of fortune telling and reading mind respectively. In this study, fortune telling means that one predicts the future in negative terms and believe that what will happen will be so awful he or she will not be able to stand it, while mind reading means that one believes that he or she knows the thoughts or intentions of others without having sufficient evidence. The data showing that all the participants were fortune tellers or mind readers, this implies that the totality of males exposed to war trauma in Zina, at 100%, are fortune tellers and/or mind readers in their thinking.

Concerning discounting positive, the prevalence was found to be at 83.8% as against those who do not present with discounting positive at 16.3%. Discounting positive in this study means that one disqualifies and discounts positive experiences or events, insisting that they do not count. This implies that majority of males exposed to war trauma in Zina, at 83.8%, are discounters in their thinking.

As for emotional reasoning and jump to conclusions, the prevalence was found to be for the two at 85.0% as against those who do not present with emotional reasoning and jump to conclusion at 15.0%. Emotional reasoning in this study means that one believes his or her emotions reflect reality and let them guide his or her attitudes and judgements while jump to conclusions means that one draws conclusions, negative or positive, from little or no confirmatory evidence. This implies that majority of males exposed to war trauma in Zina, at 85.0%, are emotional reasoners and/or to conclusions jumpers in their thinking.

What about labelling and magnification/minimization? The prevalence was found to be for the two at 95.0% as against those who do not present with labelling and magnification/minimization respectively, at 5.0%. Labelling in this study means that one puts a fixed, global label, usually negative on his/herself or others while magnification/minimization means that one evaluates him/herself, others, and situations magnifying the negatives and/or minimizing the positives. This implies that a great majority of males exposed to war trauma in Zina, at 95.0%, are negative magnifiers and/or positive minimizers in their thinking.

Regarding, selective abstraction, the prevalence was found to be at 96.3% as against those who do not present with emotional reasoning at 3.8%. Selective abstraction in this study means that one pays attention to one or a few details and fails to see the whole picture. This implies that majority of males exposed to war trauma in Zina, at 96.3%, are selective abstractors in their thinking.

On the side of overgeneralization and blaming, the prevalence was found to be at 93.8% as against those who do not present with overgeneralization or blaming at 6.3%. Overgeneralization in this study means that one takes isolated cases and generalize them widely by means of words such as “always”, “never”, “everyone”, and so on while blaming means that one directs his attention to others as sources of his or her feelings and experiences, failing to consider his or her own responsibility; or conversely, he or she likes responsibility for the behaviours and attitudes of others. This implies that majority of males exposed to war trauma in Zina, at 93.8%, are over-generalizers or blamers in their thinking.

Personalizing is another subscale whose prevalence was found to be at 95.0% as against those who do not present with personalizing at 5.0%. Personalizing in this study means that one assumes that the behaviours of others and external events concern, or are directed to him/herself without considering other plausible explanations. This implies that majority of males exposed to war trauma in Zina, at 95.0%, are personalizers in their thinking.

Moreover, the prevalence of should statement was found to be at 98.8% as against those who do not present with should statement at 1.3%. Should statement in this study means that one tells

him/herself that events, people’s behaviours, and his or her own attitudes “should” be the way he or she expected to be and not as they really are. This implies that very great majority of males exposed to war trauma in Zina, at 98.8%, are should staters in their thinking.

Furthermore, what if subscale was found to be at 77.5% as against those who do not present with what if at 22.5%. What if in this study means that one keeps asking him/herself questions “what if something happens”. This implies that majority of males exposed to war trauma in Zina, at 77.5%, are what if questioners in their thinking.

Finally, prevalence of unfair comparison was found to be at 77.5% as against those who do not present with unfair comparison at 22.5%. Unfair comparison in this study means that one compares him/herself with others who seem to do better than he does and places him/herself in disadvantageous position. This implies that majority of males exposed to war trauma in Zina, at 77.5%, are unfair comparers in their thinking.

Figure 2: Curves of frequency of cognitive distortions subscales.

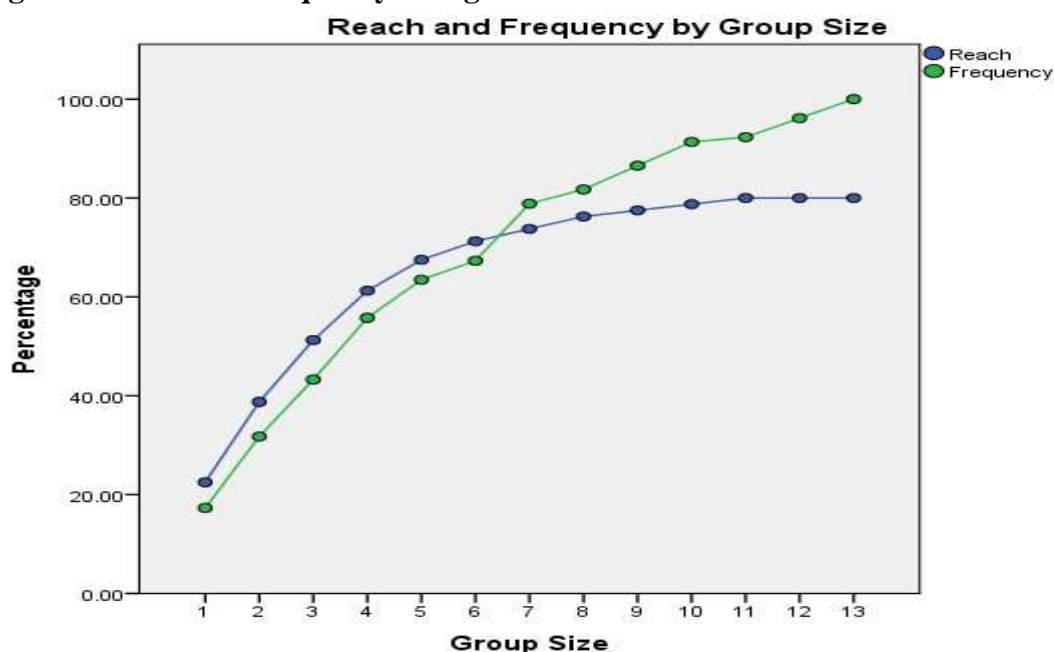


Figure 2: Frequency of cognitive distortions subscales. The curve and blue curve representing respectively the higher and lower frequencies, the highest frequency reaches up to 100% among the participants.

1.5 Conclusion

Findings from the study showed that, there is a great prevalence of cognitive distortions among males exposed to war trauma in Zina. Almost all subscales of the Cognitive Distortions Questionnaire were identified after an analysis of the data analyzed through descriptive and inferential statistics with the help of the Statistical Package of Social Sciences. The prevalence of these cognitive distortions ranged from 65% to 100% with an average of 91.4%. Among the 15 common cognitive distortions used as samples during the survey, 2 of them namely: fortune telling and mind reading were identified at 100%, while 8 others including overgeneralization, magnification/minimization, and should statement, were detected at more than 90%.

1.6 Recommendations

Findings from this study revealed that, cognitive distortions are a very serious risk threatening people's mental health and moral behavior among males exposed to war trauma in Zina. The following recommendations were made:

- a) Political and religious authorities need to intensify efforts in integrative formation and create enabling environment for males exposed to war trauma in Zina to for their psychosocial health needs and help them to reverse their cognitive distortions through civic education and process of psycho-spiritual therapy and counseling interventions.
- b) Cognitive distortions being one of the psychological disorders, males exposed to war trauma in Zina need to be aware of their responsibility about it. Self-awareness is key in this process. Males exposed to war trauma in Zina need also to be aware of the psycho-spiritual therapeutic and counseling means to prevent, manage and cope with psychological disorders such as trauma and psychological distress and their consequences.
- c) The need for self-awareness among males exposed to war trauma in Zina should also be extended to political and religious leaders. This is for the purposes of promoting and increasing awareness through resource provision and distribution for the cause.
- d) The government and other stakeholders needs to empower makes exposed to war trauma in Zena for socio-economic inclusion. This involvement will help to build their self-worthy and shun social evils which come with idleness.
- e) The government, through the governor of Bubanza province who is responsible of the administration of Zina's inhabitants, should deploy counselors and psychotherapy experts to civic and psychologically re-educate men who are victims of cognitive distortions and trauma in Zina.

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APPENDIX 1: The ten common cognitive distortions.

Nr	COGNITIVE DISTORTION	DEFINITION
1	All-or-nothing thinking	Viewing a situation or person in ‘either-or’ terms (i.e., two extremes)
2	Assuming my feelings reflect the entire reality	Believing my emotions reflect the entire reality/truth and letting them guide my interpretations.
3	Blaming (others or oneself)	Oneself: Placing responsibility on others for negative feelings and experiences, not considering my own responsibility Others: Placing responsibility on myself for negative feelings and experiences, not considering others’ responsibility.
4	Jumping to conclusions	Drawing conclusions from little or no confirmatory evidence.
5	Ignoring the positives	Ignoring or dismissing positive experiences, insisting that they do not count.
6	Should statements	Telling myself that people, situations, or experiences ‘should’ be the way I expect them to be and not as they really are.
7	Overgeneralization	Taking single cases (usually negative) and generalizing them to all cases, often using words such as ‘always,’ ‘never,’ ‘ever,’ ‘entire,’ etc.
8	Labeling	Putting a fixed, global judgment (usually negative) on myself or others.
9	Tunnel vision	Focusing on one or a few details and failing to see the whole picture.
10	Magnifying the negatives/ minimizing the positives	Magnifying the negatives: Placing greater importance on the negatives when evaluating people or situations. Minimizing the positives: Placing lesser importance on the positives when evaluating people or situations.

APPENDIX 2: The ten ways to untwist the cognitive distortions

Nr	TEN WAYS TO UNTWIST	YOUR COGNITIVE DISTORTION
1	Identify the distortion	Write down your negative thoughts so you can see which of the cognitive distortions you're involved in. This will make it easier to think about the problem in a more positive and realistic way.
2	Examine the evidence	Instead of assuming that your negative thought is true, examine the actual evidence for it. For example, if you feel that you never do anything right, you could list several things you have done successfully.
3	The double-standard method	Instead of putting yourself down in a harsh, condemning way, talk to yourself in the same compassionate way you would talk to a friend with a similar problem.
4	The experimental technique	Do an experiment to test the validity of your negative thoughts. For example, if, during an episode of panic, you become terrified that you're about to die of a heart attack, you could jog or run up and down several flights of stairs. This will prove that your heart is healthy and strong.
5	Thinking in shades of grey	Although this method might sound drab, the effects can be illuminating. Instead of thinking about your problems in all-or-nothing extremes, evaluate things on a range from 1 to 100. When things don't work out as well as you hoped, think about the experience as a partial success rather than a complete failure. See what you can learn from the situation.
6	The survey method	Ask people questions to find out if your thoughts and attitudes are realistic. For example, if you believe that public speaking anxiety is abnormal and shameful, ask several friends if they ever felt nervous before they gave a talk.
7	Define terms	When you label yourself "inferior" or "a fool" or "a loser", ask "What is the definition of 'a fool'?" You will feel better when you see that there is no such thing as "a fool" or "a loser".
8	The semantic method	Simply substitute language that is less colorful and emotionally loaded. This method is helpful for "should statements". Instead of telling yourself "I shouldn't have made that mistake", you can say, "I would be better if I hadn't made that mistake".
9	Re-attribution	Instead of automatically assuming that you are "bad" and blaming yourself entirely for a problem, think about the many factors that may have contributed to it. Focus on solving the problem instead of using up all your energy blaming yourself and feeling guilty.
10	Cost-benefit analysis	List the advantages and disadvantages of a feeling (like getting angry when your plane is late), a negative thought (like "no matter how hard I try, I always screw up"), or a behavior pattern (like overeating and lying around in bed when you're depressed). You can also use the Cost-Benefit Analysis to modify a self-defeating belief such as "I must always try to be perfect"

APPENDIX 3: Some Burundian cognitive distortions in proverbs or sayings.

Nr	Proverb in Kirundi	Translation in English	Type of cognitive distortion
1	<i>Uwutabeshe ntasumira umwana</i>	He who does not lie does not find ration for his child	O
2	<i>Umwonga umwe wonza inyoni</i>	One fountain is not enough to water a bird	P
3	<i>Impfizi yiganje yimya izindi zibona</i>	A domineering bull mates alone before other bulls' very eyes	P
4	<i>Umugabo atari so yica so agacura nyoko</i>	A man who is not your father kills your father to marry your mother.	P
5	<i>Umugabo ni uwurya utwiwe n'utw'abandi</i>	The brave man is him who takes the part of others in addition to his own	P
6	<i>Umwana w'imbeba azira urwanko rwa nyina</i>	The little mouse inherits the hatred of which his mother was victim.	O
7	<i>Imbitsi ya cane yabiriye mukeba</i>	The unrestrained announcer warned the opponent	P
8	<i>Uwukurusha ibitobezo agutwara imbwa</i>	He who is wealthier than you hijacks your dog on his own	P
9	<i>Impene irisha aho iziritse</i>	The goat grazes where it is tied	P
10	<i>Murundi yimba aguhisha ivu</i>	The other digs your grave, hiding you its soil	O
11	<i>Umwana w'uwundi abisha inkonda</i>	The drool of another's child is bitter	O
12	<i>Inkokokazi ntibika isake ihari</i>	The hen never crows in the presence of the rooster	P
13	<i>Impfizi ntiyimirwa</i>	Everything is allowed to the bull	O
14	<i>Uwuguheneye ntumuhenere akwita kibura nyo</i>	If you don't show your anus to whoever shows it to you, they think you are one without an anus.	P
15	<i>Umugabo ni umwana w'uwundi</i>	The husband is the other's son	O

APPENDIX 4: New Forms of Cognitive Distortions in Burundi in proverbs or sayings

Nr	Proverb in Kirundi	Translation in English	Type of cognitive Distortion
1	<i>Uha indaro umututsi bwaca akagusohora</i>	Host a <i>Tutsi</i> , he will expropriate you from your house	O
2	<i>Nta ntwaro y'ababo</i>	An <i>Imbo</i> native never knows how to govern	O
3	<i>Kugira umwana i Mwaro</i>	To be in relationship with a native of <i>Mwaro</i> is to pull strings for oneself	P
4	<i>Hakwihenda wokwihekura</i>	It would be better to kill yours than miss the death of the adversary.	P
5	<i>Uwo tutavyumva kumwe ni icitso</i>	He who doesn't think like us is a traitor	O
6	<i>Ikibi c'Umunyabururi gisa n'inzigo y'Umunyejenda</i>	The resentment of a <i>Bururi</i> native is tantamount to the grudge of a <i>Jenda</i> native	P
7	<i>Ntitwivye twarasagase</i>	In case of need we did not steal we got by	O
8	<i>Uwushaka umuhutu amutuma uwundi</i>	He who wants to kill a <i>Hutu</i> mandates another <i>Hutu</i>	O