# Current mental health and reconciliation sentiment of victims of the genocide against Tutsi in Rwanda

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## *Abstract*

*Two hundred and seven victims of the genocide against Tutsi in Rwanda were presented with the Rwandan version of the General Health Questionnaire-12 (GHQ), and with reconciliation sentiment items. Using confirmatory factor analysis, the factor structure of the GHQ was examined. The three-factor structure suggested by some authors reasonably fitted the data but two factors – Anxiety and depression, and Loss of confidence – were extremely correlated. As a result, a reduced two-factor model was tested, and the fit of this model was found to be reasonable. As regards the anxiety, depression and loss of confidence factor, the level of mental health observed among victims was lower than the level of mental health observed among Europeans who were never directly exposed to violence. As regards the social dysfunction factor, however, no difference was evidenced. A positive association between mental health and reconciliation sentiment was observed.*

*Keywords:* Mental health, reconciliation sentiment, General Health Questionnaire, Rwanda.

# Estado actual de salud mental y sentimiento de reconciliación en las víctimas del genocidio Tutsi en Ruanda

## *Resumen*

*Doscientas siete víctimas del genocidio Tutsi, en Ruanda, completaron la versión ruandesa del Cuestionario de Salud General (General Health Questionnaire-12, GHQ) y una serie de ítems sobre sentimientos de reconciliación. Se utilizó el Análisis Factorial Confirmatorio para examinar la estructura factorial del GHQ. La estructura de tres factores sugerida por algunos autores se ajustó a los datos pero dos de los factores –Ansiedad y depresión y Pérdida de confianza– estaban extremadamente correlacionados. Como consecuencia, se probó un modelo reducido de dos factores, cuyo ajuste fue razonable. Los resultados indican que cuando se considera la ansiedad-depresión y la pérdida de confianza, el nivel de salud mental observado entre las víctimas fue inferior al de los europeos que no fueron expuestos a la violencia. Sin embargo, cuando se tiene en cuenta el factor disfunción, no se evidenciaron diferencias. Se observó, finalmente, una asociación positiva entre la salud mental y el sentimiento de reconciliación.*

*Palabras clave:* Salud mental, sentimiento de reconciliación, General Health Questionnaire, Ruanda.

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The present study was aimed at (a) examining the factor structure of the Rwandan version of the General Health Questionnaire-12, (b) measuring the mental health of victims of the genocide against Tutsi in Rwanda, using this questionnaire, (c) comparing the values observed with the ones recently reported by Mäkikangas et al. (2006), who conducted a survey on a large European sample, and (d) studying the relationship between mental health and the level of reconciliation sentiment.

The General Health Questionnaire (GHQ, Goldberg & Hillier, 1979) is a measure of psychological morbidity that has been used in a variety of settings. The initial scale was developed in the 1970s, and was comprised of 60 items. Since then, shorter versions of this questionnaire have been devised, notably the frequently used 12-item version (Goldberg, 1989). This shortened version has been extensively used as a screening instrument in large samples (e.g., Leon et al., 1996). Recent studies using confirmatory factor analysis have supported a three-factor structure: Social dysfunction, Anxiety and depression, and Loss of confidence.

Examining the level of mental health of large groups of persons who have suffered from severe collective offenses is important for several individual, communal, and national reasons (see, Toussaint & Webb, 2005). The negative feelings that are associated with enduring resentment (e.g., guilt, shame, remorse, impotence) are factors that tend to decrease mental health. Diminished mental health, above all when it concerns a whole group, may have, directly and vicariously, costly implications for society. These costs relate to the association between diminished mental health and diminished physical health. More dramatically, diminished mental health, and associated diminished quality of life of all group members can make it more likely that at least some members of the group become, in turn, perpetrators of violence in the future (Staub & Pearlman, 2001).

Good mental health and the associated positive relationships between people generate the atmosphere within which the economy of a country can develop and prosperity be attained, while bad mental health and the associated obstructed relations will certainly undermine even the best productive system (Bloomfield, 2005). Without a minimal level of mental health, and without a minimal level of healthy communication between people, communities cannot develop the complex and always changing networks of voluntary cooperation that are indispensable to participatory, economically productive societies. Finally, mental health and reconciliation are circularly interrelated. As mental healing progresses, reconciliation becomes more possible, and as reconciliation progresses, mental health increases (Staub & Pearlman, 2001).

## Resentment After Severe Offenses and Mental Health

Several studies, usually using correlational designs, have examined the relationship between resentment after severe offenses and mental health. Most of them have illustrated a positive link between enduring resentment and depression (e.g., Brown, 2003; Kendler et al., 2003) or anxiety (Seybold, Hill, Neumann & Chi, 2001), as well as a negative link between enduring resentment and life satisfaction (Toussaint, Williams, Musick & Everson, 2001). Some of them illustrated a link with psychopathic tendencies (Muñoz Sastre, Vinsonneau, Chabrol & Mullet, 2005). In some cases, the associations that were reported were strong. For instance, Berry and Worthington (2001) reported a correlation as high as -.52 between unforgiveness and global mental health.

Enduring resentment may also be associated with elevated values of physiological parameters. Witvliet, Ludwig and van der Laan (2001) examined the implications of harboring grudges on physiology and health. Associations were

examined through the use of electromyography techniques. Witvliet et al. (2001) showed that unforgiving thoughts elicited after rehearsed hurtful memories prompted more aversive emotion, and higher brow electromyogram, skin conductance, heart rate, and blood pressure changes from baseline. These authors concluded that enduring resentment may erode health through physiological reactions. In the study by Lawler et al. (2003), participants were interviewed twice about instances of interpersonal betrayal. The relationship between dispositional forgiveness, present state forgiveness, stress, hostility, empathy, and self-reported illness symptoms were assessed. Current resentment was shown to be associated with higher blood pressure levels, heart rate, and pressure products. Lawler et al. (2003) concluded that enduring resentment may produce detrimental effects directly by increasing allostatic load associated with offences, and indirectly through augmentation in perceived stress.

Resentment may also be associated with physical pain. Carson et al. (2005) showed that, in patients with chronic back ache, there is a positive relationship between current resentment and pain, anger and psychological distress. Resentful patients might be experiencing higher physical and psychological distress than non resentful patients.

There has been very little research, however, examining the relationship between enduring resentment and mental health in the context of traumatic experiences. Witvliet, Phipps, Feldman and Beckman (2004) showed that, among 213 veterans suffering from post traumatic stress disorders, resentment was positively correlated to depression and symptom severity. Also, Feeny, Zoellner and Foa (2000) showed that, among combat veterans and assault victims, feelings of revenge (and state anger) were positively associated with severity of post-traumatic stress symptoms.

Finally, the only study to date that is specifically about the relationship between reconciliation and mental health among Rwandese is the one that was conducted by Longman, Pham and Weinstein (2004). They correlated measurements of reconciliation with measures of post-traumatic stress disorders (Forbes, Creamer & Biddle, 2001). They showed a negative association between trauma level and PTSD severity, and reconciliation. The more the participants showed trauma symptoms the less they agreed with the content of the reconciliation as interdependence items, the reconciliation as community items, and the reconciliation as absence of violence items.

## Hypotheses

Our first hypothesis was that the three-factor structure (Social dysfunction, Anxiety and depression, and Loss of confidence) that has been found in most studies using the GHQ-12 should also be found in the present study.

Our second hypothesis, based on the many studies reported above, which show a negative link between enduring resentment following a severe offense and mental health, was that the level of mental health observed among victims of the genocide against Tutsi should be lower than the level of mental health observed among European people who have not been directly exposed to violence. Our third hypothesis, based on the study by Longman et al. (2004), was that of a positive relationship between reconciliation sentiment and mental health.

## Method

### *Participants*

The sample was composed of 139 females and 68 males from two administrative areas in the Southern Province of Rwanda: Huye and Gisagara. Their ages ranged from

18 to 69 and the mean age was 30 (*SD* = 11.77). One hundred and ninety five participants declared they had directly suffered from the genocide (primary victims). The remaining participants were secondary victims. Overall, the participation rate was 59%. Sixty one participants had received primary education, 64 participants secondary education and 82 had received university education.

All participants were unpaid. Contact with the participants were approved and facilitated by the local authorities of the Southern Province. These authorities also helped in finding the rooms in which the participants were invited to complete the questionnaire. Special efforts were made to contact people from different villages, boroughs, and towns, and from different educational levels in order to maximize, as much as possible, the representativeness of the sample. However, evidently, the samples were only composed of people who were literate. The European sample was a representative sample of the Finnsish population aged 25-59 (more details in Mäkikangas et al., 2006).

*Material and Procedure*

The material consisted of the General Health Questionnaire (Goldberg & Williams, 1988), which is aimed at measuring changes in such things as sleeping problems, anxiety, and perceptions of personal difficulties. The 12-item version of this questionnaire was retained. The questionnaire was translated into Kinyarwanda (see Table I). The material also consisted in five additional items related to reconciliation and reconciliation sentiment (see Table IV).

The data were gathered in December 2007. Each participant responded individually. The researchers asked participants to read the questionnaire's items – sentences expressing levels of daily life trouble – and rate his/her degree of agreement with each statement.

TABLE I
*The Rwandan version of the General Health Questionnaire*

| | |
|---|---|
| Able to concentrate | Ese vuba aha washoboye kwita ku buryo bukwiye ku byo wakoraga? |
| Play useful part in things | Ese vuba aha wumvise ufatiye runini (ufitiye akamaro kanini) abo muri kumwe? |
| Capable of making decisions | Ese vuba aha wumvise bigushobokeye gufata ibyemezo? |
| Enjoy day-to-day activities | Ese vuba aha wumvise ushoboye kwishimira imirimo yawe ya buri munsi? |
| Face up to problems | Ese vuba aha wumvise ushoboye guhangana n'ibibazo (n'ingorane) bya we? |
| Reasonably happy | Ese vuba aha wumvise koko unezerewe, ugaragara neza? |
| Lost sleep over worry | Ese vuba aha wabuze ibitotsi bitewe n'ibyari biguhangayikishije? |
| Constantly under strain | Ese vuba aha wumvise uri ku nkeke, ku rutoto (gutota) |
| Could not overcome difficulties | Ese vuba aha wabonaga usa nk'udashobora gusohoka mu ngorane zawe? |
| Unhappy or depressed | Ese vuba aha wumvise usa n'ufite ibyago, intimba n'agahinda byinshi? |
| Loss of confidence in self | Ese vuba aha wumvise usa n'utakiyizeye (n'utakifitiye icyizere)? |
| Thinking of self as worthless | Ese vuba aha witekereje nk'umuntu udafite agaciro? |

*Note*. The levels of the responses scales were the ones that are classically used in Golberg's scale: Better than usual, Same as usual, Worse than usual, Much worse than usual, e.g., item 1 (Birenze ubusanzwe, Nk'ubusanzwe, Munsi y'ubusanzwe, Munsi cyane y'ubusanzwe, e.g., item 1), or Not at all, No more than usual, Rather more than usual, Much more than usual, e.g., item 2 (Oya rwose, Ntibirusha ubusanzwe, Kurusha ubusanzwe, Kuruhsa cyane ubusanzwe, e.g., item 2).

## Results

The means and standard deviations observed for each item are shown in table II. The overall mean was close to 2; that is, on the average, the level of mental health of the victims of the genocide was not dramatically bad. The level of mental health was, however, not so good as the one observed among the Europeans, and the difference, although small (2.08 – 1.98 = .10), was significant, $p < .05$ (one-tailed $t$-test). The standard deviations were systematically higher among the victims of the genocide than among the Europeans. As shown in columns 6 and 7, the percentage of victims who score higher than 2 on each item was higher than the percentage of Europeans who score higher than 2.

TABLE II
*Mean and Standard Deviations Observed in the Rwandan Sample (RW) and in the Finnish Sample (FIN). Percentage of Participants With scores Higher than 2 on Each Item*

| | *M* | | *SD* | | High Scores | |
|---|---|---|---|---|---|---|
| Item | RW | FIN | RW | FIN | RW | FIN |
| Able to concentrate | 2.04 | 2.07 | 0.85 | 0.54 | 25 | 19 |
| Play useful part in things | 1.86 | 2.00 | 0.80 | 0.50 | 17 | 9 |
| Capable of making decisions | 1.96 | 2.09 | 0.85 | 0.49 | 23 | 13 |
| Enjoy day-to-day activities | 2.05 | 2.08 | 0.92 | 0.56 | 28 | 15 |
| Face up to problems | 2.08 | 2.12 | 0.90 | 0.52 | 27 | 15 |
| Reasonably happy | 2.15 | 2.08 | 0.88 | 0.58 | 28 | 15 |
| Lost sleep over worry | 2.31 | 1.97 | 1.08 | 0.82 | 43 | 24 |
| Constantly under strain | 2.13 | 2.15 | 1.03 | 0.83 | 38 | 30 |
| Could not overcome difficulties | 2.22 | 1.84 | 0.99 | 0.75 | 40 | 15 |
| Unhappy or depressed | 2.51 | 1.97 | 0.99 | 0.84 | 51 | 23 |
| Loss of confidence in self | 1.98 | 1.70 | 1.04 | 0.75 | 29 | 12 |
| Thinking of self as worthless | 1.64 | 1.69 | 0.94 | 0.80 | 20 | 14 |
| *M* | 2.08 | 1.98 | .94 | .67 | 31 | 17 |
| *N* | 207 | 640 | 207 | 640 | 207 | 640 |

### *Confirmatory Factor Analyses*

A confirmatory factor analysis was conducted on the raw data. The correlated three-factor model tested was the one suggested by Mäkikangas et al. (2006). The model fitted the data reasonably well, $\chi^2_{(51, 207)} = 69.90$, $p < .05$ (RMSEA = .04, CFI = .97). Inspection of the path coefficients, however, showed that two factors – Anxiety and depression, and Loss of confidence – were too strongly correlated (.84) for being considered, on practical grounds, as separate factors.

As a result, a second confirmatory factor analysis was conducted on the raw data. The correlated two-factor model tested was one that was also suggested by Mäkikangas et al. (2006) under the name of Model 2. This model is shown in table III. It also fitted the data reasonably well, $\chi^2_{(53, 207)} = 86.65$, $p > .01$ (RMSEA = .05 [.03-.07], CFI = .95).

### *Comparisons with European Data and Relationships with Reconciliation*

Two scores were computed, a social dysfunction score ($M$ = 2.02), and an anxiety, depression and loss of confidence score ($M$ = 2.13). These scores were compared with the corresponding ones computed from the European data. (The study by Mäkikangas et al., 2006, was used for comparison purposes because it offered very detailed results to which it was easy to compare our findings.) As shown in table II, the victims'

TABLE III
*Results of the Second Confirmatory Factor Analysis. Mean Responses and Alpha values for Each Factor.*

| | Factors | | |
|---|---|---|---|
| Item | SD | ADL | *t* |
| Able to concentrate | .32 | | 4.55 |
| Play useful part in things | .60 | | 11.06 |
| Capable of making decisions | .63 | | 12.04 |
| Enjoy day-to-day activities | .71 | | 15.36 |
| Face up to problems | .70 | | 14.95 |
| Reasonably happy | .61 | | 11.57 |
| Lost sleep over worry | | .65 | 13.44 |
| Constantly under strain | | .54 | 9.50 |
| Could not overcome difficulties | | .67 | 14.22 |
| Unhappy or depressed | | .75 | 18.75 |
| Loss of confidence in self | | .93 | 25.66 |
| Thinking of self as worthless | | .69 | 15.45 |
| *Social dysfunction* (SD) | 1.00 | .57 | 9.28 |
| *Anxiety, depression, loss (ADL)* | .57 | 1.00 | 9.28 |
| Alpha | .77 | .83 | |
| Inter-item correlation | .36 | .45 | |
| *M* (Rwanda) | 2.02 | 2.13 | |
| *M* (Finland) | 2.07 | 1.89 | |
| *p* | *ns* | .001 | |

anxiety, depression and loss of confidence score was significantly higher than the Europeans' one.

Finally, these two scores were correlated with the items expressing reconciliation and reconciliation sentiment. The results are shown in table IV. For four of these items the correlation with mental health was significant.

TABLE IV
*Correlations Between the Reconciliation Items and the GHQ Sub-scales*

| | | | GHQ | |
|---|---|---|---|---|
| Items | *M* | *SD* | SD | ADL |
| I feel I can now discuss about serious issues with the people who harmed me. | 5.81 | 4.06 | -.12 | -.25* |
| I feel I can now trust the people who harmed me. | 3.14 | 3.70 | -.17* | -.19* |
| I think that the people who harmed me have now accepted our personal views about what happened in 1994. | 3.43 | 3.70 | -.12 | -.20* |
| I feel I am now on good terms with the people who harmed me. | 4.04 | 3.70 | -.24* | -.29* |
| I feel I have been able to forgive the people who harmed me. | 6.95 | 3.65 | .04 | -.02 |

## Discussion

The study examined the factor structure of the Rwandan version of the General Health Questionnaire-12. The hypothesis was that the three-factor structure suggested by Mäkikangas et al. (2006) should also be found in the present study. In fact, although the fit indices for the three-factor model were good, two of the factors found by

Mäkikangas et al. (2006) – Anxiety and depression, and Loss of confidence – were too correlated for their separation is considered as really grounded. As a result, a reduced correlated two-factor model was tested, and the fit of this model was found to be reasonable. Although these two factors were also correlated, the magnitude of their correlation was of the same order than the one found in Mäkikangas et al. (2006, [.33-.58]).

The study also measured the mental health of victims of the genocide against Tutsi in Rwanda, and compared the values observed in this sample with the values observed in a large European sample, which were reported by Mäkikangas et al. (2006). The second hypothesis was that the level of mental health observed among victims should be lower than the level of mental health observed among Europeans. As regards the anxiety, depression and loss of confidence factor, the results supported the hypothesis. As regards the social dysfunction factor, however, no difference was evidenced.

This pattern of similarity-difference is interesting in itself. This pattern shows that the difference in anxiety, depression and loss of confidence observed between the Rwandan victims and the European participants is certainly not attributable to differences in style of responding to questionnaires (e.g., acquiescence effects). Close examination of the standard deviations and of the item scores showed that the overall difference between the victims and the Europeans was attributable to a few number of victims who scored very high on every item loading the anxiety factor. In other words, even if the anxiety scores of the victims of the genocide were not extremely different from the anxiety scores of people who had never directly experienced such a level of violence, a sub-sample of Rwandan victims was still suffering from psychological troubles.

These values are in contrast to the findings by Carney (1994), who, in a study carried out a few months after the events, showed that 90% of all survivors of the genocide showed clinical signs of psychological trauma. In addition, they have to be contrasted with findings by Páez, Asum and González (1994) showing that many years after the fall of a dictatorial regime, many people may still be traumatized. These values are in line with recent observations reported by Kanyangara, Rimé, Philippot and Yzerbyt (2007, p. 388): "Emotional harms in the Rwandese society are still far from being repaired. A complex emotional climate prevails involving at one and the same time feelings of anger, resentment, shame, sadness, and distrust".

The study, finally, assessed the relationship between reconciliation sentiment and mental health. The relationship was found to be significant, although the size of the correlation coefficients was relatively modest. This finding is consistent with the findings by Longman et al. (2004). Interestingly, although the highest agreement score was the one found regarding the forgiveness item, there was no relationship between forgiveness and mental health. This result supports the view that it was essentially renewed interaction in daily life that mattered when considering mental health status.

These findings led us to think that policies of reconciliation may be politically and economically worthwhile. Reconciliation of the type that has been found to impact on mental health, which involves the rebuilding of trust between citizens, is indispensable to the development of orderly, healthy, and prosperous societies.

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