

**Stigma, Marginalization and Psychosocial Wellbeing of Orphans in Rwanda: Exploring the
Mediation Role of Social Support**

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Acknowledgements

The authors would like to acknowledge the support of the Prime Minister's office in charge of Family and Gender Promotion (MIGEPROF), the National Statistics of Rwanda, the National University of Rwanda, World Vision Rwanda, CARE Rwanda, Red Cross Rwanda, the Agency for Co-operation and Research in development (ACORD, Rwanda), and the many other NGOs that gave advice and shared their expertise. Our special appreciation goes to the enumerators who helped during the survey.

Abstract

Stigma and marginalization are one of the major challenges orphans face in their daily lives, particularly in developing countries, but little is known about their impacts on mental health. This study examines how orphan-related characteristics, stigma and marginalization are associated with psychosocial well-being. It further analyses the role of social support in mediating between stigma and marginalization and mental health, indicated by emotional well-being and mental distress. The participants in this study were 430 Rwandan orphans who were 10-25 years of age, and of whom 179 were females and 251 were males. Results showed that high levels of stigma and marginalization were associated with a lower level of emotional well-being and higher levels of mental distress. A mediation analysis indicated that low level of social support due to stigma and marginalization contributed significantly to low level of emotional well-being. Once stigma, marginalization and social support were fully accounted for, AIDS orphans exhibited higher levels of mental distress than those who were orphaned by genocide or other causes. Future interventions designed to reduce stigma and marginalization for orphans and actions that facilitate social support can significantly improve emotional well-being and reduce mental distress among orphans.

Key words: Orphans, stigma, marginalization, social support, psychosocial well-being

Stigma, Marginalization and Psychosocial Well-being of Orphans in Rwanda: Exploring the Mediation Role of Social Support

The 1994 genocide and HIV/AIDS epidemic in Rwanda have created one of the largest orphan populations in the world, which has resulted in the erosion and degradation of traditional social structures that used to care for orphans (Thurman, et al. 2008). Lack of parental support implies that support from others becomes a core source of protection in stressful situations (Cohen & Wills, 1985). Studies in Africa have shown that stigma and marginalization cause mental health problems such as depression, anxiety, and diminished psychosocial well-being (Cluver & Gardner, 2006; Daniel, 2005; Nyamukapa et al., 2008; Wild, 2001). Certain causes of parental death are reported to lead to severe stigmatization and marginalization (Thurman, et al., 2006) in Africa. Most studies have identified AIDS-related stigma as one of the most common sources of poor mental health for orphans in Africa (Atwine, Cantor-Graae, & Bajunirwe, 2005; Campbell, Skovdal, Mupambireyi, & Gregson, 2010; Cluver, Gardner, & Operario, 2008).

Stigma is closely related with the concept of exclusion and social marginalization (Deacon & Stephney, 2008). Experiences of stigma involve a number of co-occurring components, such as stereotyping, labeling, separation, status loss, and discrimination (Link & Phelan, 2001; 2006). According to a synthesis study by Deacon & Stephney (2008), most studies on the psychosocial well-being of orphans associate stigma and marginalization with children affected by HIV/AIDS, particularly in countries where the disease is widespread, or government action to educate society is inadequate (Cluver et al., 2008; Makoae et al., 2008). The findings of these studies established that children orphaned due to AIDS experience higher levels of stigma and discrimination than other orphans or non-orphans (Campbell, Foulis, Maimane, & Sibiya, 2005 ; Cluver & Orkin, 2009; Letamo, 2004; Mudiappan, Mangaleswaran, & Hensilin, 2013; Zhao et al., 2010).

Yet, in the literature, we lack knowledge on how stigma and marginalization are associated with the psychosocial well-being of those orphaned by other causes than AIDS. This study extends existing knowledge on stigma and marginalization by including in the analysis orphans with multiple cause of parental death such as AIDS, Genocide and other causes of orphanhood and its association with orphan-related characteristics. Researchers also emphasized that the environments in which orphans live (Bray, 2003; Deacon & Stephney, 2008) or the nature of parental death (Wild, Fisher, Laas, & Robertson, 2005) are important factors in influencing both stigma and marginalization and their impacts on psychosocial well-being.

Stigma and marginalization are social phenomenon where victims are subsequently deprived of social support, information, and are excommunicated from social networks leading to various psychological problems (Link & Phelan, 2006; Sagric, Radulovic, Bogdanovic & Markovic, 2007). Similarly, in the African context, research confirms that stigmatizing attitudes and behaviors against people with HIV/AIDS have led to a decline in social support (Lee, Kochman, & Sikkema, 2002; Varas-Diaz, Serrano-Garcia, & Toro-Alfonso, 2005). It is thus important to learn whether stigma and marginalization can reduce social support which in turn leads to mental health problems. A study in China confirmed that social support mediates the relationship between stigma and depression among children orphaned due to AIDS (Wang et al., 2012). The current study tests for the first time in Africa whether stigma and marginalization are associated with emotional well-being and mental distress both directly and indirectly through reduced social support. The mediation model is adopted from Baron and Kenny (1986). In Figure 1, it is hypothesized that stigma and marginalization reduce social support, which in turn negatively affects the emotional well-being and mental distress of orphans.

<Figure1 here>

The specific objectives of this research are to examine, first, how orphan-related characteristics such as; causes of parental death (AIDS, genocide, others) type of parental loss, (double, paternal, maternal) living environments (child-headed households, those in the street, orphanages and foster homes) and age-group differences are associated with the level of perceived stigma and marginalization. Second, how do perceived stigma and marginalization associate with emotional well-being and mental distress among orphans? Third, does social support mediate the association between stigma and marginalization and emotional well-being and mental distress?

Method

Sample and participants

The participants were 430 orphans between 10 and 25 years of age. Of them 41.6% (n=179) were females and 58.4% (n=251) males. The fieldwork was conducted in Rwanda in 2009. The National Statistical Institute of Rwanda estimates the number of orphans to be at around 850,000, based on household and other administrative data. The sample size of 450 was established from the estimated orphan population with a 95% level of confidence and 5% margin of error. Participants were identified through the help of government agency (The Prime Minister's office in charge of Family and Gender Promotion (MIGEPROF)) and by non-governmental organizations (World Vision Rwanda, Care International, Red Cross Rwanda, and the Agency for Co-operation and Research in Development) that worked closely with orphan-related issues and psychosocial care.

Due to the unavailability of census data on the distribution of orphans living in various living environments and geographic regions in Rwanda, an equal-proportion method was used to allocate subjects among the four living environments: 115 orphans were drawn from child-headed households (67 female & 48 male), 81 from street children (4 female & 77

male), 101 from orphanages (44 female & 57 male) and 123 from foster homes (60 female and 63 male). In order to increase geographic coverage, the study included participants from the capital city, Kigali and districts from Northern, Southern, Eastern and Western part of Rwanda.

In addition, to compare our result with previous studies that stated AIDS related causes of parental death is the commonest sources of stigma and marginalization, we further included in our sample AIDS and other causes of parental death. Therefore, we incorporated in the present study genocide orphans 48% (n=202), those orphaned by AIDS 13 % (n=57) and those who were orphaned by other causes such as malaria, accidents and pneumonia 39%. (n=161). The study also incorporated a wide range of age groups of orphans to capture the developmental stages following the Rwandan genocide and AIDS epidemic. While the World Health Organization (2005) defined adolescents (10-18) and youth below 25 years of age, in this study we classified the age groups further in to three specific categories in order to understand the effect of age on perceived stigma and marginalization among children (10-15) adolescents (16-18) and youth (19-25). In Africa, since birth certificate is not a common practice, it is conceivable that self-reported age could suffer from misreporting particularly downward biases. We did not attempt to correct for under-reporting of age as it is highly plausible the error is systematic across the sample and will have no effect on statistical analysis.

Procedure of the study

Ethical approval was granted by the National Ethics Committee of Rwanda, following the guidelines set by the World Health Organization (WHO). The participants were assured of the confidentiality of the information they provided and of the fully voluntary nature of their participation. All participants signed informed-consent forms.

Measures

Demographic and orphan-related characteristics of participants included (i) whether the cause of parental death was due to genocide, AIDS, and by other causes, (ii) the status of being an orphan (single, paternal and maternal) and, (iii) living environments in which children at the time of the survey were living (child headed households, street, orphanage and foster homes).

Emotional well-being

A 10-item scale was adopted from the Orphans and vulnerable children Psychosocial Baseline Survey, conducted by Family Health International, Lusaka, USAID (2002). It assessed the feelings of worry, frustration, happiness, anger, and hopefulness with response options of 1 (often) to 3 (never). The total sum score was constructed by summing all items; a higher score represented a better level of emotional well-being. Cronbach's alpha was 0.79.

Mental distress

A 20-item Self-Reporting Questionnaire was taken from WHO (1994) to assess mental distress such as anxiety, depression and somatic symptoms with response options of 1 (no) and 2 (yes). Total score was constructed by summing all items and reversed the scale so that higher score representing higher levels of mental distress. The SRQ has shown to be a good reliability and validity in its application. (e.g., Mulatu, 1995; Parry, 1996; Stewart, Umar, Tomenson, & Creed, 2013). Cronbach's alpha = 0.85

Perceived social support

A 14-item social-support scale was taken from Thurman et al. (2006) to assess the available sources of support if orphans needed help from relatives, the community, adults and peers with response options of 1 (agree) to 3 (disagree). Total sum score was constructed by

summing all items and reversed the scale so that the higher score representing a higher level perceived social support. Cronbach's alpha= 0.79

Perceived stigma

A six-item stigma scale was taken from Thurman et.al (2008) to assess how orphans felt and enacted stigma from the surrounding community with response options of 1 (agree) to 3 (disagree). Total scores were constructed by summing all items and reversed the scale so that a higher scores representing a higher level of stigmatization. Cronbach's alpha= 0.78

Perceived marginalization

A six-item scale was taken from Thurman et al. (2006) to assess whether orphans felt and enacted marginalization from the surrounding community with response options of 1 (strongly agree) to 5 (strongly disagree). Total scores were constructed by summing up all items and reversed the scale so that a higher scores representing a higher level of marginalization. Cronbach's alpha= 0.77

Analysis

First, the demographic and orphan-related characteristics were analyzed according to the cause of parental death by using χ^2 - tests. A Pearson's moment correlation was used to analyze the associations between stigma and marginalization, perceived social support and psychosocial well-being. Second, a one-way analysis of variance was conducted to test whether there is significant difference in perceived stigma and marginalization among orphan-related characteristics by applying a Post-hoc Tukey test. Third, a hierarchal regression analysis was used to examine the association between stigma and marginalization with psychosocial well-being. In Model 1 the demographic and orphan-related characteristics were taken into account. Model 2 included stigma and marginalization as explanatory variables in

the analysis. Finally, the mediating role of social support was estimated using the SPSS program by Hayes (2013) to investigate the hypothesis that stigma and marginalization could influence psychosocial well-being both directly and indirectly through reduced social support. The data were analyzed using SPSS (version 18).

Result

Descriptive analysis

The descriptive statistics in Table 1 present the key demographic characteristics of orphans according to the causes of parental death (genocide, AIDS and other causes). Results show that the cause of parental death varied significantly with orphans' age, gender, living environment and region of residence ($p < 0.01$). Those affected by genocide and AIDS were older than those orphaned by other causes. Genocide orphans tend to live in orphanages or foster homes, while AIDS orphans tended to be child headed households. While genocide orphans were mostly in the capital, Northern, and Southern part of the country, AIDS orphans lived in the Western and Eastern parts of the country. Those orphaned by other causes were mainly males, resided in the Western part of the country and lived on the street.

<Table 1 here >

The results from the Pearson moment correlation showed a significant negative correlation ($p < 0.01$) between stigma and marginalization and emotional well-being and mental distress (Table 2). Social support was correlated significantly positively with emotional well-being and negatively with mental distress, and stigma and marginalization.

<Table 2 here>

Perceived stigma and marginalization across orphan-related characteristics

Results from ANOVA in Table 3 indicated that there were no significant differences in perceived stigma and marginalization across cause of parental death or the status of orphans, instead a significant difference was found between living environments ($p < 0.01$). Children living in streets ($p < 0.01$) reported higher level of stigma and marginalization followed by child headed households ($p < 0.01$) and foster homes ($p < 0.01$). Further, children in the age group (10-15) reported lower levels of stigma ($p < 0.01$) compared to adolescents and youth but no variation was observed between the age groups with respect to marginalization.

<Table 3 here>

Association of stigma and marginalization with psychosocial well-being

Stigma

Stigma explained a significant part of the variation in psychosocial well-being among orphans. The inclusion of stigma in Model 2 increased the R^2 by 12% points or by 46% for the variation in emotional well-being (Table 4). In Model 2 we observed that stigma was very significantly associated with emotional well-being ($B = -.36, P < 0.01$) and mental distress ($B = .52, P < 0.01$). Demographics and orphan-related characteristics continued to be important in influencing emotional well-being. Orphans (19-25) tended to experience lower levels of emotional well-being and the longer orphans spent in a particular environment. On the contrary, those who attended school, had three meals a day and lived in an orphanage exhibited higher level of emotional well-being. Likewise, the inclusion of stigma in Model 2 increased the explanatory power for mental distress by 18% points or 65% (Table 4). Children who lost their parents due to AIDS experienced a significant level of mental distress ($B = 1.95, P < 0.01$). However, living in orphanages and in the southern region of the country was associated with lower levels of mental distress.

Marginalization

The inclusion of marginalization in Model 2 increased the R^2 by about 8% points, or by 30% for the variation in emotional well-being (Table 5). In Model 2 we observed that marginalization was very significantly associated with emotional well-being ($B = -.34$, $P < 0.01$) and mental distress ($B = -.52$, $P < 0.01$). Parental death due to AIDS was associated with higher level of emotional well-being than other causes of death ($B = -1.55$, $p < 0.05$).

Demographic and orphan-related characteristics continued to be important, where being an adolescent or youth, as well as the number of years spent in the same living environment showed a very significant low level of emotional well-being. Those who attended school and had three meals a day had higher levels of emotional well-being. Likewise the inclusion of marginalization in Model 2 increased the variation for mental distress by 14% points or 70%. Parental death due to AIDS was associated with higher level of mental distress than other causes of death ($B = 2.22$, $p < 0.01$), while living in orphanages and having three meals a day were associated with lower levels of mental distress.

Stigma, marginalization, and psychosocial well-being: mediation role of social support

The results of the mediation analysis in Table 6 and Appendix Table A1 show that social support mediated the relationships between stigma, marginalization and psychosocial well-being. The role of social support in mediating the effect of stigma on emotional well-being was 9% ($p < 0.01$), and 10% ($p < 0.01$) for marginalization (Table 6). In Appendix (Table A1), orphans who lost their parents due to AIDS continued to show higher level of mental distress due to stigma ($B = 1.66$, $P < 0.05$), and marginalization ($B = 2.02$, $P < 0.05$).

Controlling for stigma, marginalization and social support significantly reduced the role of living environments on emotional well-being and mental distress, except for those living on the street who exhibited lower mental distress as a result.

Discussion

The study examined the associations between perceived stigma and marginalization and the psychosocial well-being among Rwandan orphans. Further we analyzed a mediation role of social support and examined the direct and indirect effects of stigma and marginalization on orphans psychosocial well-being. First, our result indicated that there was no statistically significant difference in perceived stigma and marginalization due to causes of parental death. This differs from the findings of Thurman et al (2008) where genocide and AIDS orphans perceived higher level of stigma and marginalization than other orphans. We anticipate that part of the difference stems from the composition of the samples. Thurman et al (2008) focused only on youth headed households from South and Western part of Rwanda. Our sample included orphans in the age range of 10-25 years living in orphanages, foster homes, street and child headed households, and drawn from all parts of Rwanda. The independent role age and living environments play in influencing psychological outcomes in our sample could have reduced the role that cause of parental death may have on perceived stigma and marginalization. The finding that perceived stigma and marginalization varied significantly across the living environments, rather than the cause of parental death, further added another dimension that may be important but less emphasized in the empirical literature. This observation fits well with Deacon and Stephney (2008), as well as Bray (2003) who emphasized the importance of living conditions in influencing a set of psychological outcomes as well as community behavior towards orphans.

Second, our findings established that stigma and marginalization were associated strongly with low level of emotional well-being and high level of mental distress, which is consistent with previous research (e.g. Daniel, 2005; Cluver et al., 2008; Nyamukapa et al., 2008; Wang et al, 2012). In addition, AIDS orphans continued to show higher levels of mental distress than those who had lost their parents due to genocide or other causes even

after controlling for stigma, marginalization and social support. One conceivable reason could be children orphaned by AIDS may fear that they also carry the virus which could be a source of anxiety and heightened level of mental distress.

Third, as hypothesized, stigma and marginalization led to low levels of perceived social support, which is consistent with the findings of studies by Thurman et al (2008), Lee et al. (2002) and Varas-Díaz et al. (2005). The results from the mediation analysis highlighted that social support was reduced due to stigma and marginalization, and this leading to lower levels of emotional well-being of orphans, confirming the findings of Wang et al. (2012). This is our unique contribution to the literature as there was no previous study that quantitatively established the pathways through which stigma, marginalization and social support were intertwined to drive the level of emotional well-being and mental distress of orphans in Africa. In addition, the importance of living environments, particularly that of orphanages ceased to be important once we accounted for stigma, marginalization and social support.

Although this study brought new findings, it is certainly not without limitations. First, being a cross-section, our data prevents us from making causal inferences. Second, the lack of standardized measures has also limited the study, even though most of the measures have been used previously in Rwanda and elsewhere. Thirdly, a lack of administrative data on the distribution of the population of orphans restricted the selection of samples in a truly random fashion.

Conclusion

Despite these potential limitations, our findings indicated that stigma and marginalization degraded social support, and in turn led to low levels of emotional well-being and high levels of mental distress. The fact that stigma and marginalization persisted despite efforts by the

government to promote reconciliation, heal the ethnic divides and promote social cohesion is worrisome. More is needed to deal with the after-effects of the genocide in re-establishing community solidarity to do away with hatred, isolation and discrimination. It follows that the Rwandan community and government need to promote policies and practices that could mitigate the deleterious effect of stigma and marginalization through legislations, advocacy, and other means to enhance solidarity and social support.

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Figure 1: Mediation model of social support

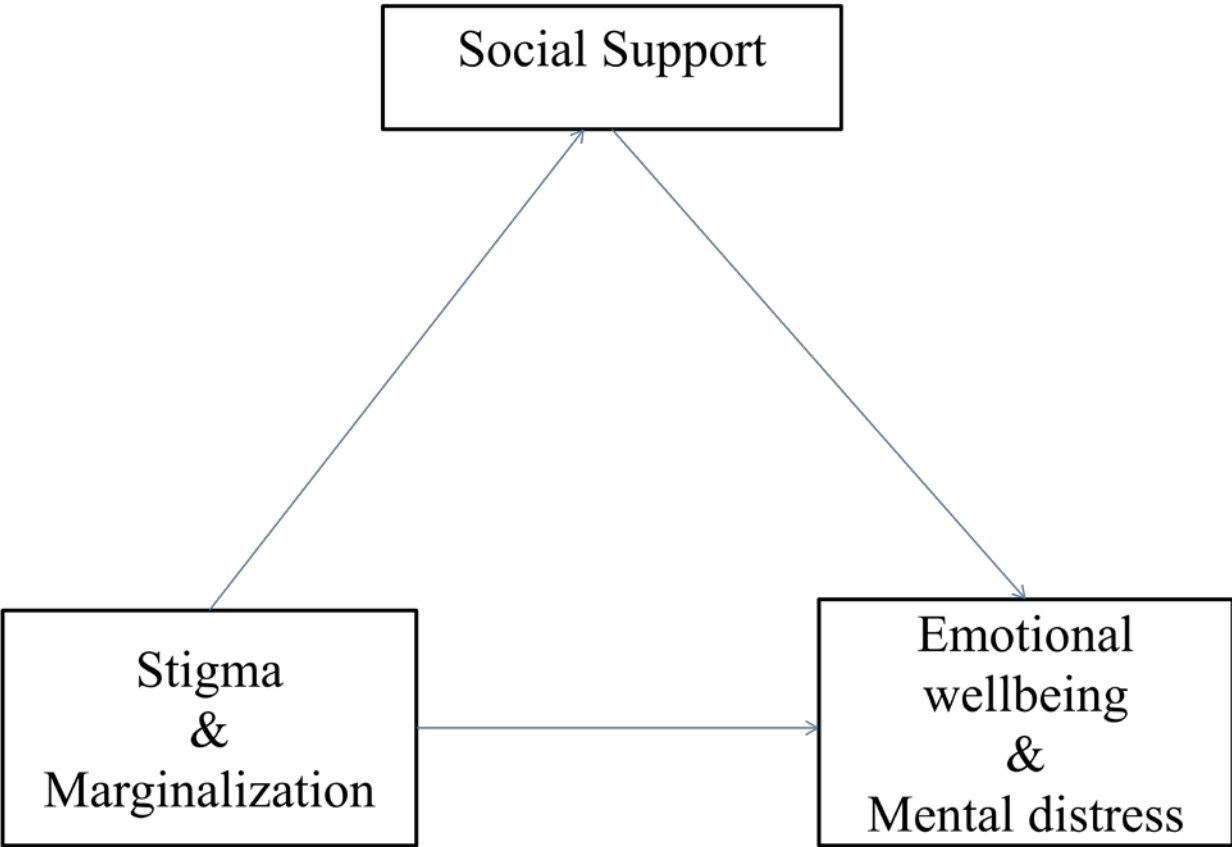


Table 1. Descriptive Statistics by Cause of Parental Death (N = 420)

Variables	Genocide orphans		AIDS orphans		Other causes of orphans		χ^2
	N	%	N	%	N	%	
All sample	202	48.00	57	13.45	161	38.51	
Age							17.68***
10-15	49	44.10	12	11.00	50	45.30	
16-18	58	43.60	22	16.50	53	39.80	
19-25	95	54.00	23	13.10	58	33.00	
Sex							3.45
Female	88	49.20	26	14.50	65	36.30	
Male	119	47.40	24	9.60	108	43.00	
Living environment							33.34***
Child-headed households	52	42.60	26	21.30	44	36.10	
Street	36	42.90	3	3.60	45	53.60	
Orphanage	51	50.00	3	2.90	48	47.10	
Foster homes	68	55.30	18	14.6	37	30.10	
Region							72.57***
Kigali	57	44.50	38	29.70	33	25.80	
North	35	57.40	3	4.90	23	37.70	
South	80	54.10	6	4.10	62	41.90	
East	20	41.70	1	2.10	27	56.30	
West	15	32.60	2	4.30	29	63.00	

Note: *** $p < .01$

Table 2. Correlations between Emotional Wellbeing, Mental distress, Stigma, Marginalization and Social Support. (N = 429)

Measures	Emotional Wellbeing	Mental Distress	Stigma	Marginalization	Social Support
Emotional Wellbeing	1				
Mental distress	-0.67**	1			
Stigma	-0.56**	0.57**	1		
Marginalization	-0.39**	0.46**	.63**	1	
Social support	0.35**	-0.24**	-0.28**	-0.22**	1

** $P < 0.01$

Table 3. The Association between Orphan-related Characteristics and Stigma and Marginalization (N=420)

Variables	Stigma		Marginalization	
	M	SD	M	SD
Age				
10-15	16.28 ^b	4.36	12.47 ^a	3.35
16-18	17.80 ^a	4.44	12.24 ^a	3.46
19-24	18.92 ^a	4.58	11.69 ^a	3.58
<i>F-value</i>	11.31***		1.83	
Cause of Parental Death				
Genocide	17.81	4.24	12.08	3.57
HIV/AIDS	18.54	4.72	12.47	3.39
Others	17.77	4.86	11.91	3.44
<i>F-value</i>	0.56		0.45	
Status of orphans				
Double	17.71	4.41	12.10	3.42
Paternal	18.07	4.93	12.37	4.57
Maternal	19.16	5.18	11.45	3.65
<i>F-value</i>	2.20		0.77	
Living environment				
Child- headed households	19.27 ^b	4.35	12.76 ^b	3.49
Street	21.14 ^a	4.43	13.29 ^a	3.58
Orphanage	15.00 ^d	3.39	10.55 ^d	3.12
Foster	16.78 ^c	3.80	11.66 ^c	3.27
<i>F-value</i>	42.01***		12.83***	

Notes. The column-wise subscripts reflects mean difference using post hoc Tukey test (a>b>c)

*** $p < .01$.

Table 4. The Association of Stigma with Psychosocial Wellbeing (N =407)

	Emotional well being						Mental distress					
	Model1			Model 2			Model1			Model 2		
	B	S.E	Beta	B	S.E	Beta	B	S.E	Beta	B	S.E	Beta
Age												
16-18	-.97**	.46	-.11	-.81**	.41	-.10	.76	.57	.07	.53	.50	.05
19-25	-1.49***	.48	-.19	-1.15***	.44	-.14	.98	.60	.10	.50	.53	.05
Sex												
Female	-.50	.37	-.06	-.11	.34	-.01	1.35***	.46	.14	.80**	.41	-.08
Meal												
Two times a day	.93**	.45	.12	.57	.41	.07	-.78	.56	-.08	-.26	.50	-.03
Three times a day	2.89***	.61	.30	1.96***	.56	.21	-1.97**	.77	-.17	-.65	.68	-.06
Attending school	1.91***	.71	.12	1.63**	.65	.10	-.31	.89	-.02	.08	.78	.00
Status of orphans												
Double	-.37	.58	-.03	-.08	.53	-.01	.55	.73	.04	.13	.65	.01
Paternal	.80	1.03	.04	.78	.94	.04	-.73	1.30	-.03	-.70	1.14	-.03
Cause of parental death												
AIDs	-1.46**	.64	-.12	-1.01*	.58	-.08	2.58***	.80	.17	1.95***	.71	.13
Genocide	-.39	.37	-.05	-.27	.34	-.03	.50	.47	.05	.33	.41	.03
Living environment												

Child-headed household	-.31	.50	-.04	.42	.46	.05	.53	.62	.05	-.51	.56	-.05
Street	-1.65**	.65	-.16	.37	.63	.04	2.27***	.82	.19	-.61	.77	-.05
Orphanage	1.19	.58	.13	1.16	.52	.13	-2.50***	.72	-.22	-2.45***	.63	-.22
Region of residence												
North	-.02	.57	.00	.40	.52	.04	-.24	.71	-.02	-.84	.63	-.06
South	-.02	.48	.00	.47	.44	.06	-.62	.61	-.06	-1.32**	.54	-.13
East	-1.22*	.65	-.09	-.75	.59	-.06	.41	.82	.03	-.25	.72	-.02
West	.34	.62	.03	.66	.57	.05	.27	.78	.02	-.19	.69	-.01
Years spent in the same living environment	-.13***	.04	-.14	-.09**	.04	-.11	.12**	.05	.12	.08*	.04	-.07
Stigma				-.36***	.04	-.42				.52***	.05	.50
R ² (Model 1 & 2))	.28			.40			.22			.44		
Change in R ²	.12***									.18***		

Notes. The reference groups for the control variables are 10-15 (age); male for (sex); one meal (availability of meals per day); has not been to school (schooling); single orphan (status of orphan); other causes of parental death (other); Foster children for (living environments) and Kigali for (region).

*** $p < .01$.

** $p < .05$.

* $p < .1$.

Table 5. The Association of Marginalization with psychosocial Wellbeing (N = 407)

	Emotional wellbeing						Mental Distress					
	Model 1			Model 2			Model 1			Model 2		
	B	S.E	Beta	B	S.E	Beta	B	S.E	Beta	B	S.E	Beta
Age												
16-18	-.96**	.46	-.11	-.97**	.43	-.11	.79	.57	.08	.83	.52	.08
19-25	-1.49***	.48	-.19	-1.59***	.46	-.20	1.06**	.61	.11	1.21**	.55	.13
Sex												
Female	-.44	.37	-.06	-.14	.35	-.02	1.33**	.46	.14	.87*	.42	.09
Meal												
Two times a day	.82*	.45	.10	.70	.43	.09	-.92	.56	-.10	-.75	.51	-.08
Three times a day	2.72***	.62	.28	2.27***	.59	.24	-2.10**	.78	-.18	-1.43*	.71	-.12
Attending school	1.94***	.72	.12	1.67**	.68	.11	-.19	.89	-.01	.23	.81	.01
Status of orphan												
Double	-.18	.59	-.02	-.03	.56	.00	.29	.74	.02	.04	.67	-.00
Paternal	1.06	1.04	.05	.98	.99	.05	-.75	1.30	-.03	-.62	1.18	-.02
Causes of parental death												
AIDs	-1.45**	.65	-.11	-1.55**	.62	-.12	2.08**	.81	.14	2.22***	.74	.15
Genocide	-.45	.37	-.06	-.43	.35	-.06	.58	.47	.06	.54	.43	.06
Living environment												
Child-headed households	-.29	.50	-.03	-.02	.48	.00	.60	.62	.06	.18	.57	.02
Street	-1.75***	.66	-.17	-1.06	.63	-.11	2.14**	.82	.18	1.07	.76	.09
Orphanage	1.26**	.58	.14	1.03*	.55	.11	-2.34***	.73	-.21	-1.96	.66	-.18
Region of residence												
North	.07	.57	.01	.56	.55	.05	-.13	.72	-.01	-.88	.66	-.07
South	.02	.49	.00	.17	.46	.02	-.34	.61	-.03	-.58	.56	-.06
East	-1.23*	.65	-.09	-1.16*	.62	-.09	.56	.82	.04	.43	.75	.03
West	.48	.63	.04	.89	.60	.07	.35	.78	.02	-.29	.72	-.02

Years spent in the same living environment	-.11***	.04	-.13	-.10***	.04	-.12	.10**	.05	.10	.09**	.05	.08
Marginalization				-.34***	.05	-.30				.52***	.06	-.39
R ² (Model 1 & 2)	.26			.34			.20			.34		
Change in R ²	.08***						.14***					

Notes. The reference groups for the control variables are 10-15 (age); male for (sex); one meal (availability of meals per day); has not been to school (schooling); single orphan (status of orphan); other causes of parental death (other); Foster children for (living environments) and Kigali for (region).

*** $p < .01$.

** $p < .05$.

* $p < .1$.

Table 6. The Direct and Indirect Effects of Social Support on Stigma, Marginalization and Psychosocial Wellbeing (N = 388)

Variables	Indirect Effect		96% CI	
	Coefficient	% I.E	Lower	Upper
Stigma → SS → Emotional wellbeing	-.04***	9	-.06	-.01
Marginalization → SS → Emotional wellbeing	-.02***	10	-.04	-.00
Stigma → SS → Mental distress	.00	<1	-.02	.03
Marginalization → SS → Mental Distress	.01	<1	-.01	.04

Notes. SS represents social support; CI, Confidence Interval and I.E , Indirect effects

***p<.01.

Appendix

Table A1. The Mediation Role of Social Support on Stigma, Marginalization and Psychosocial Wellbeing (N =407)

Variable	Stigma				Marginalization			
	Emotional Wellbeing		Mental Distress		Emotional Wellbeing		Mental Distress	
	β	SE	β	SE	β	SE	β	SE
Social Support	.18***	.05	-.02	.06	.09**	.04	-.05	.06
Stigma/Marginalization	-.34***	.05	.54***	.05	-.20***	.04	.52***	.06
Age								
16-18	-.68	.42	.41	.52	-.10***	.37	.63	.54
19-25	-.95**	.44	.50	.54	-1.30***	.38	1.15**	.57
Sex								
Female	-.33	.37	.84**	.42	-.09	.36	.96**	.44
Attending Schooling	1.71***	.78	.10	.83	1.24***	.56	-.06	.85
Status of orphans								
Paternal	.70	.96	-.85	1.2	1.63	1.23	-.85	1.23
Double	.11	.53	.02	.70	.55	.63	-.02	.69
Cause of parental death								
Genocide	-.26	.34	.33	.42	-.14	.36	.57	.44
HIV/AIDS	-.50	.60	1.66**	.73	-.44	.49	2.02**	.78
Living environment								
Child-headed households	.13	.59	.33	.73	-.12	.50	.57	.44
Street	.81	.57	-1.93***	.70	.79	.50	-2.1***	0.74
Orphanage	-.14	.47	.36	.58	.18	.40	-.27	.60

Region of residence								
North	.22	.59	-.95	.64	.07	.46	-1.00	.68
South	.41	.45	-1.26**	.54	.08	.39	-.61	.57
East	-.96	.60	-0.31	.74	-.81	.53	.27	.78
West	.75	.58	-.46	.72	.96	.51	-.74	.76
No of years spent in same living environment	-.08**	.04	.08	.05	-.05	.03	.09	.05
R^2	.45		.43		.46		.36	
<i>Indirect effect</i>	-.03**	.01	-.004	.01	.02***	.008	-.01	.01
<i>% of indirect effect</i>	10.30		-2.00		9.6		-2.00	

Notes. The reference groups for the control variables are 10-15 (age); male for (sex); one meal (availability of meals per day); has not been to school (schooling); single orphan(status of orphan); other causes of parental death (other); Foster children for (living environments) and Kigali for (region).

***p<.01.

** p<.05.