

Family Type Predicts Mental Health Problems in Young Adults: A Survey of Students at a University in Botswana

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Abstract

In Africa, the structure of the family is changing rapidly. The effects of this change on mental health remain unknown. This study investigated the extent to which different family types (intact, single-mother, and multiple) predict mental health problems in young adults in Botswana ($N = 264$, mean age = 21.31, $SD = 2.40$). In a cross-sectional design, the study sampled students registered at various faculties at the University of Botswana. The revised symptoms checklist (SCL-90-R) was used to assess symptoms of mental health problems (depression, anxiety and hostility). Binary logistic regression analyses were performed to obtain odds ratios (ORs) and 95 per cent confidence intervals (CIs) of mental health problems for mother-only and multiple family types relative to the intact family type. Compared to the intact family type, single-mother (OR = 2.34; 95% CI: 1.21, 4.51) and multiple family types (OR = 1.56; CI: 0.88, 2.78) were associated with an increased risk of depression. For anxiety, the ORs were 2.27 (CI: 1.18, 4.38) and 1.10 (CI: 0.56, 1.82) for single-mother and multiple family types respectively. For hostility, the ORs were 2.60 (CI: 1.34, 5.04), and 0.79 (CI: 0.44, 1.42) for single-mother and multiple family types, respectively. Family types predict mental health problems in young adults and therefore the interventions to mitigate the effects should consider family backgrounds and the ramifications of family types for treatment and care.

Keywords: family type, mental health, young adults, Botswana

Introduction

The associations between different family types and children's later mental health outcomes have been the subject of previous studies, especially in the West (Pearce et al. 2014; Perales et al. 2017; Perales, O'Flaherty, and Baxter 2016). Studies on

whether different family types predict later mental health problems in the offspring are lacking in many African countries, including Botswana. Yet, poverty, disease, urbanisation, labour migration and cultural dilution are known predictors of family dysfunction in Africa (Amoateng et al. 2015). Consequently, an understanding of how different family structures predict later mental health of the offspring is essential in developing and implementing public health interventions and social programmes. Moreover, mental health problems among the youth are a determinant and driver of the spread of HIV/AIDS and substance abuse, especially in southern African countries (Goin et al. 2019; Harrison et al. 2015; Michalopoulos et al. 2017; WHO 2014).

Botswana has witnessed many changes in family structure that have occurred over the years (Dintwat 2010; Letamo, Bainame, and Bowelo 2015). The history of labour migration to work in the mines in neighbouring South Africa has shown adverse long-term effects on families in countries neighbouring South Africa including Botswana (Harrison et al. 2015). Husbands were separated from their wives for long periods leading to family breakdowns, absentee parents, extramarital relationships, the spread of infectious diseases, and a decrease in and disruption of marriage as an institution (Harrison et al. 2015; McKinnon and Karim 2016). In the past, it was rare to find unmarried people in society as marriage conferred upon them dignity, status, stability, wealth, and the legal raising of children for posterity (Dintwat 2010). Besides the labour migration history and the HIV/AIDS pandemic, decades of socio-economic growth transformed Botswana from one of the poorest countries in the world to an upper-middle-income country today (World Bank 2015). In the recent past, Botswana has witnessed an upsurge in divorce, absentee or truant fathers, and many people choosing not to marry. All these changes have led to various family configurations (Harrison et al. 2015; Letamo, Bainame, and Bowelo 2015; McKinnon and Karim 2016). Yet, little is known about the impact of these changes on the later mental health of the offspring raised in such families (Letamo, Bainame, and Bowelo 2015).

In this study, the family structure is conceptualised as an intact family (where both mother and father are present raising their children together), a mother-only family (where the mother is raising her children single-handedly), and a multiple-type family (where children are brought up by relatives in different family settings). Currently, it is estimated that 7 out of 10 Botswana children live in households with a single parent; 60 per cent of these households are headed by women (Dintwat 2010). Yet, little is known about the impact of these changes on the later mental health of the offspring raised in such families (Letamo, Bainame, and Bowelo 2015).

The proportion of female-headed households in Botswana is one of the highest in the world (Government of Botswana/UN 2010; UNICEF Botswana 2012) and data from the Central Statistics Office (CSO) in the country indicate that two-thirds of children in the country (7- to 17-year-olds) do not live with their fathers (CSO 2017). Previous studies have demonstrated that children raised by single parents, especially single mothers, display poorer functioning (Modecki et al. 2015), have poorer educational

outcomes (Figlio et al. 2016), poorer psychological well-being (Betts et al. 2015; Mossakowski 2015), and are more prone to drug and substance abuse (Ewing et al. 2015).

Furthermore, past studies have associated different family structures with later mental health outcomes of the offspring in numerous ways. First, family environments that are fraught with conflicts, poverty, and aggression, often lead to separation or divorce. This environment, in turn, is associated with later adverse mental health outcomes in the offspring (Betts et al. 2015; Daryanani et al. 2016; Mossakowski 2015). As a result, most of these families end up being headed by single mothers and are often associated with poorer social adaptation and psychological outcomes (Betts et al. 2015; Daryanani et al. 2016; Mossakowski 2015). Second, raising children single-handedly entails an immense and sometimes overwhelming responsibility associated with increased stress and mental health problems (Betts et al. 2015; Daryanani et al. 2016; Mossakowski 2015). For example, a systematic review of the influence of family structure on health risk behaviours found that living with both parents reduced high-risk health behaviours (Frantz, Sixaba, and Smith 2015). On the contrary, being raised by a single parent, especially a single mother, has been associated with reduced educational outcomes (Figlio et al. 2016). Living with both parents protects against drug and substance use (Ewing et al. 2015). Similarly, particularly in the West, divorce or separation has been associated with less education, lower levels of psychological well-being, relationship problems, lower attachment to parents, and a higher risk of future divorce or separation in the offspring (Amato 2010).

Paternal involvement, often lacking in families headed by single mothers, has been shown to protect against the psychological maladjustment of the offspring (Schleider, Chorpita, and Weisz 2014). Furthermore, separation or divorce has been associated with more family conflicts, all common in families headed by single mothers, which, in turn, adversely affect several domains of functioning in the offspring (Modecki et al. 2015).

Therefore, this study aims to assess the associations between being raised in different family types and the symptoms of mental health problems in emerging young adult offspring at the University of Botswana. Specifically, the study aims to: (1) quantify the family types in which young adults at the University of Botswana were raised; (2) assess symptoms of depression, anxiety, and hostility stratified by different family types; and (3) evaluate the extent to which family types predict symptoms of depression, anxiety, and hostility among young adults at the University of Botswana.

Theoretical Framework

To help delineate the family process that leads to the path of mental health problems, the family stress model (FSM) is used to explain the results of this study. The FSM

posits that constant and severe stressors such as financial difficulties and divorce or separation expose parents and their offspring to psychological distress and other social ills (Masarik and Conger 2017). Ultimately, long-term exposure to family stress may be associated with personal distress, family dysfunction, and negatively affect parenting and the current and future well-being of the offspring raised in such families (Wadsworth et al. 2011). The FSM is an important framework that may help to describe family processes and future social and mental health problems.

Furthermore, the FSM postulates that economic pressures, emotional distress, family conflicts (such as separation and divorce), and poverty (for example, the failure to meet basic needs) expose parents to psychological distress, thus affecting their children directly (resulting in, for example, depression, anxiety, hostility, and substance abuse) and indirectly through the parenting process (by means of, for example, harsh treatment, emotional abuse and neglect). The direct and indirect effects of stressors, in turn, disrupt parenting and lead to a myriad of adverse social, educational, and mental health outcomes in the offspring (Conger, Conger, and Martin 2010; Conger, Rueter, and Conger 2000). Likewise, owing to economic pressures, poor families live in poor neighbourhoods with a high density of crime, aggression and drug and substance abuse. In this study, different family types experience different economic pressures with single-parent families, headed by predominantly single mothers, hardest hit by poverty and deprivation often associated with mental health problems (Betts et al. 2015; Daryanani et al. 2016; Masarik and Conger 2017; Mossakowski 2015). The results of this study will therefore be explained using the FSM. Based on the literature, it is hypothesised that being raised in single or multiple type families predict more symptoms of depression, anxiety, and hostility than being brought up in intact families.

Method

Study Design and Sample

The current study employed a cross-sectional design using a convenient sampling strategy to collect data from seven different faculties of the University of Botswana (Education, Humanities, Health Sciences, Engineering and Technology, Medicine, Social Sciences, and Business). The university is a premier institution of higher learning in Botswana with over 15 000 students from all over the country with different socio-economic backgrounds. The trained researchers moved around the university campus in different faculties to request permission from lecturers to collect data from their respective classes. In total, 281 students registered for different study programmes were asked to participate in the study. A total of 11 questionnaires were excluded from the analyses due to incomplete responses and six students declined to participate. In the end, data from 264 students, representing 94 per cent response rate, were included in the analyses. Altogether, 264 young adults (70% female, $n = 185$) participated in the study. All the students were enrolled in an undergraduate course

and were between 18 and 28 years of age. Except for three respondents who were from the southern African region, the rest were Batswana (98.9%, $n = 261$).

Data Collection

Data were collected in the third and fourth week of the semester on Tuesdays, Wednesdays, and Thursdays only to avoid stressors related to tests or exams and weekend parties and recreational activities. Altogether, data were collected from 264 undergraduate students in their first, second, third, fourth, and fifth years of study. Before distributing the questionnaire, the background, purpose, and significance of the study were explained to the students. The students were also informed that participation was voluntary and that they could withdraw at any time without consequence. Information was collected on their demographic characteristics (age, gender, year of study, the family type, secondary schools attended, parental educational attainment, history of mental illness, and mental health problems (depression, anxiety, and hostility)). The questionnaire took approximately 10 to 15 minutes to complete.

Ethical Considerations

Permission to conduct the study was sought and granted by the Institutional Review Board of the University of Botswana. Before data collection, the participants were assured of anonymity and confidentiality in the publications resulting from this study. Upon completion of the questionnaire, the participants were verbally debriefed about the available psychological support services at the Psychology Clinic of the Department of Psychology or the University Counselling Centre. A debriefing statement on where to seek help in case of psychological problems resulting from participating in the study was also included at the end of the questionnaire.

Measures

Socio-demographic characteristics

The participants were asked to report their gender, year of study, intact-family type (families with both mother and father), single-mother families (where the mother was the sole provider), care or foster homes (raised in an orphanage, in foster care or adoptive homes), and multiple-family settings (where you have lived with both mother and father, single mother, and extended families (with uncles, aunts, grandmothers, single parents, etc. at different points during childhood)), place of upbringing, and age.

Mental health dimensions

The revised symptoms checklist (SCL-90-R) (Derogatis 1977) is a 90-item self-report measure designed to screen for a broad range of symptoms of mental health problems in primary healthcare. The internal consistency coefficient ratings ranged from 0.90 for depression and 0.77 for hostility. Test-retest reliability has been reported to range

from 0.80 to 0.90, with a time interval of one week (Derogatis 2000) with samples from the United States. The SCL-90-R can be completed within 10 to 15 minutes with each of the 90 items rated on a five-point Likert scale of distress, ranging from “not at all” (= 0) to “extremely” (= 4), measuring the extent to which the listed symptoms have been experienced during the past seven days. A higher score is indicative of more symptoms in each dimension.

In this study, three symptoms dimensions of the SCL-90-R (depression, anxiety, and hostility) were used. The depression, anxiety, and hostility scales were represented by questions that inquire about specific symptoms such as “feeling worthless” for depression, “suddenly scared for no reason” for anxiety, and “having urges to break or smash things” for hostility. The symptoms dimensions of the SCL-90-R have different clinical thresholds for male and female participants based on studies in the United States. The SCL-90-R is widely used in primary healthcare and multicultural settings with acceptable psychometric properties (Derogatis 2000).

Before the analyses, the mental health dimensions were dichotomised based on the clinical thresholds for SCL-90-R, considering the parameters for female and male participants as stipulated in the manual. A T-score of 63, according to Derogatis criteria and gender-specific norms equivalent to approximately 90th percentile, was used to screen for the presence or absence of symptoms of mental health problems (Derogatis 2000). This was aimed at making the possible clinical implication of the study of greater public health application.

Although the SCL-90-R does not have a southern African norm, it has been used before in the South African context (Dyer, Lombard, and Van der Spuy 2009). For the current study, the internal consistencies (Cronbach's alpha) of the different subscales on the instruments were high: $\alpha = .86$ for symptoms of depression, $\alpha = .94$ for symptoms of anxiety, and $\alpha = .87$ for signs of hostility.

Data Analyses

Descriptive statistical analyses were run for age, mental health outcomes (depression, anxiety, and hostility), and different family structures, and the results were tabulated. To examine whether different family structures predict poor mental health outcomes in young adults and the prevalence of each specific dimension (depression, anxiety, and hostility), binary logistic regression analyses were performed to obtain odds ratios (ORs) and 95 per cent confidence intervals (CIs) of mental health outcomes for mother-only and multiple-family types relative to the intact-family type. In these analyses, the presence of each separate mental health outcome was the dependent variable, and the family structure (intact, single-mother, and multiple-family) was entered as a categorical independent variable each at a time. Considered potential confounders of the relationship between family structure and mental health problems, age, parental educational attainment and history of mental health problems were

assessed and subsequently adjusted. All the statistical procedures were performed using IBM SPSS version 24.0 (IBM Corp 2016). The statistical significance threshold was set at a *p*-value of less than .05.

Results

Descriptive Statistics

The socio-demographic characteristics of the participants (age, gender, and family type) were computed and are presented in Table 1. A total of 264 students with an average age of 21.31 (SD, 2.40) from seven faculties of the University of Botswana participated in the study. Overall, there were more students from intact families (42%) than from single-mother-only (24%), and multiple-type families (34%). Most of the participants were female students (70%; *n* = 185). The chi-square test of independence yielded statistically significant differences for different family structures on symptoms of depression (χ^2 (1, *N* = 263) = 6.07, *p* = .02) and anxiety (χ^2 (1, *N* = 263) = 4.93, *p* = .03) but not hostility. The female participants reported more symptoms than their male counterparts on all mental health outcomes (Table 1).

Table 1: Demographic characteristics and mental health scores of the participants

	Total <i>n</i> (%)	Male <i>n</i> (%)	Female <i>n</i> (%)
Sample	264 (100)	79 (30)	185 (70)
Family type			
Intact	111 (42)	28 (35)	83 (45)
Mother-only	64 (24)	27 (34)	37 (20)
Multiple	89 (34)	24 (31)	65 (35)
	Total (M, SD)	Male (M, SD)	Female (M, SD)
Age	21.31 (2.40)	21.72 (2.49)	21.13 (2.35)
Mental health			
Depression	19.92 (10.77)	17.11 (8.83)	21.12 (11.31)
Anxiety			
Hostility			

Key: M= mean score; SD = standard deviation; *n* = number

In general, mental health outcomes correlated significantly between themselves. Gender correlated significantly with symptoms of depression and anxiety, but not hostility (Table 2).

Table 2: Bivariate correlations between variables in the study

Variables	1	2	3	4	5
Gender	–	–0.17**	–.12**	–.10	.02
Depression		–	.73**	.58**	.07
Anxiety			–	.62**	.08
Hostility				–	.04
Family types					–

Key: Significant correlations are in bold; ** Significant at $p < .05$

The scores of mental health problems (depression, anxiety, and hostility) stratified by family types are presented in Figure 1. Generally, the intact-family type was associated with fewer symptoms of all mental health problems followed by multiple-family types and mother-only family types in that order.

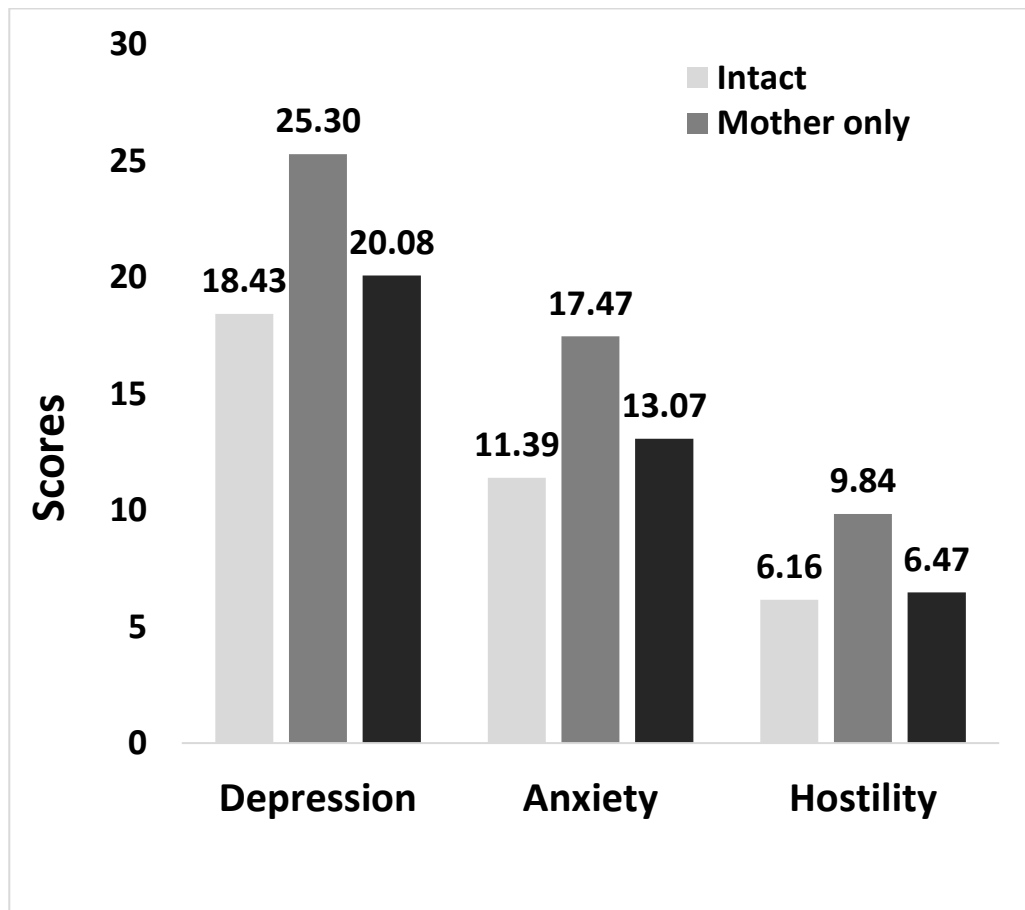


Figure 1: Symptoms of mental health problems in different family types

Table 3 presents three types of families (intact, mother-only, and multiple) that were regressed on the three mental health outcomes while adjusting for gender, age, and history of mental health problems. Age was equally distributed across family types, and an initial correction for it had not changed the results. Consequently, age was removed from the final analyses. Compared to intact-family type, single-mother and multiple-family types were associated with increased risks of all mental health problems except for hostility, which showed decreased risks for signs of hostility (Table 3).

Table 3: Logistic regression analyses: attributable risks of family types on mental health outcomes adjusted for gender ($N = 264$)

Mental health outcome	<i>N</i>	Intact-family type (reference)	Mother-only family type OR (95%, CI)	Multiple-family type OR (95%, CI)
Depression	264	1.00	2.34 (1.21, 4.51)	1.56 (0.88, 2.78)
Anxiety	264	1.00	2.27 (1.18, 4.38)	1.10 (0.56, 1.82)
Hostility	264	1.00	2.60 (1.34, 5.04)	0.79 (0.44, 1.42)

Key: N = number; OR = odds ratio; CI = confidence interval

Discussion

The results revealed a strong relationship between family structure and mental health outcomes in this population. Compared to the intact-family type, the odds or chances of reporting symptoms of mental health problems were more than double for the students raised by single mothers compared to those raised in intact families. Associations of all mental health problems with single-mother family type were more substantial for symptoms of depression, anxiety, and hostility than for multiple-type families, although the trends were the same for symptoms of depression and anxiety. The findings suggest that young adults brought up in single-mother family types were most at risk of mental health problems followed by those brought up in multiple type family types. These findings confirm the earlier hypothesis that young adults raised by single mothers and in multiple family types have more symptoms of mental health problems than those raised in intact families, except for hostility.

This study is unique as the authors are not aware of any research that has been conducted in Botswana to assess the mental health of children brought up in different family types. The findings, therefore, could be a precursor for future studies to evaluate the differential effects of different family types on later mental health outcomes of children and young adults to inform social, economic, and public health policies.

Several mechanisms through which single-mother families may be related to mental health problems have been highlighted. First, poverty is disproportionately higher in

female-headed households (46%) as compared to male-headed households (26%) (CSO 2002/03; 2017; Gaisie 2000). Furthermore, poverty is a source of chronic stress that affects the relationship between parents and their children, and often leads to poor family functioning, child abuse, and poor rearing behaviours (Amone-P'Olak et al. 2009a; 2009b; Barret and Turner 2005; Schneiders et al. 2003; Stansfeld et al. 2008).

Second, the burden of raising children single-handedly takes a heavy toll on single mothers leading to high levels of stress, conflict, and dysfunctional family situations. Another mechanism could be through earlier attachment to caregivers. A lack of previous attachment to caregivers during childhood, coupled with living in different family settings at various times during childhood and adolescence, may lead to maladaptive attachment patterns often associated with adverse mental health problems and personality problems that predispose to drug and substance abuse (Ludick and Amone-P'Olak 2016; Ntinda et al. 2015). It is common in Botswana for young mothers, especially those who have children while at school, to leave their young children in the custody of their mothers, aunts, uncles or grandparents while they pursue further education (Ntinda et al. 2015). These results agree with the FSM which hypothesises that economic pressures and all their antecedents expose children to psychological distress, especially in single-parent families and multiple-family settings which are disproportionately poorer than intact families (Masarik and Conger 2017). Students from poorer backgrounds are also at disparate risk of financial difficulties and experience a hoard of other stressors (Hetolang and Amone-P'Olak 2017), and may abuse drugs and substances as a way of coping with their distress (Kgatitswe and Amone-P'Olak 2017; Moitlakgola and Amone-P'Olak 2015; Mongale and Amone-P'Olak 2019).

Third, HIV/AIDS has had an enormous impact on children and young adults in Botswana, leaving many of the youths in single-parent families or growing up in child-headed households (UNICEF Botswana 2012). Consequently, many youths have had to grow up with a severe mental health problem as a result of witnessing their siblings and parents perish as a result of the HIV/AIDS pandemic. In addition, mental health problems such as depression may also expose young adults to diseases. A recent study in South Africa with a similar population and culture to the study in Botswana found that adolescent girls and young women with depression were at a higher risk of acquiring HIV than their counterparts without depression (Goin et al. 2019).

Consequently, the influence of family types on psychological outcomes is the result of a complex process compounded with family resources (for example, income, education and employment) and conflicts (for example, separation, divorce, domestic violence), and may be associated with similar outcomes for both male and female young adults (Mack, Peck, and Leiber 2015).

Limitations

The results of this study should be interpreted cautiously owing to several limitations. First, the SCL-90-R is only a screening tool of psychological distress in the preceding week, which cannot be taken to mean psychiatric or psychological disorders defined in terms of clinical diagnoses. Nonetheless, the findings may be an indication of general psychological distress that warrants follow-up and further studies. Second, owing to the cross-sectional survey design of the study, it is impossible to infer causality. Third, the sample size in our study was small. Besides, there were more female (70%) than male (30%) respondents. However, gender was adjusted for in the analyses. Fourth, the use of a convenient sample drawn from only one setting, that is the University of Botswana, does not allow for generalisation of the findings to other contexts. Fifth, the self-report measures used in this study may be prone to recall bias. Finally, the SCL-90-R is only a screening tool of psychological distress in the preceding week. Nonetheless, the findings may be an indication of general psychological distress that warrants follow-up and further studies.

Implications for Practice, Policy, Research and Theory

Notwithstanding the limitations outlined above, the findings of this study have several implications for practice, policy, research and theory. The results of this study contributed to the literature by highlighting family types as possible predictors of mental health problems in early adulthood in Botswana, where 70 per cent of children come from families with a single parent, usually the mother (Dintwat 2010). Priorities for practitioners and policymakers in universities should regard the family type as a possible way of identifying students that are susceptible to mental health problems. Interventions that target mental health problems such as Cognitive Behavioural Therapy (Fitzpatrick, Darcy, and Vierhile 2017) and mindfulness training (Bravo et al. 2016) may not only alleviate mental health problems but also prevent exposure to other diseases such as HIV (Goin et al. 2019) or drug and substance abuse (Kgatitswe and Amone-P'Olak 2017; Moitlakgola and Amone-P'Olak 2015; Mongale and Amone-P'Olak 2019). In addition, institutions of higher learning where many young adults are enrolled should expand their counselling departments to become more practical and not only wait for young adults to present with mental health problems.

The current structure of mental health services at universities and other institutions of higher learning may need to be restructured to create an elaborate referral system of peers, tutors and counsellors to serve students with mental health problems (Van Breda 2013; 2017). Likewise, educational programmes (for example, psychoeducation) that make young adults aware of psychological problems, and help-seeking, and that give tips on emotional regulation (Van Breda 2013; 2017) should be included not only during orientation but also in the general curriculum. Policies that help to support and strengthen the family, such as employing social workers to work

in rural settings with families and young people, are critically important. In addition, educational programmes for young parents or potential parents should be part of social work department programmes. In these programmes, parental roles should be clarified to new and potential parents. Investment in training of non-specialist workers such as lay health workers or community health workers to deliver such programmes can have enormous benefits in alleviating mental health problems.

Concerning research, there is a need for longitudinal studies with a sample of the general population and the use of diagnostic measures to assess the mental health outcomes of the changes in family types in young adults. Although the sample size of this study was small, educational institutions should scale up the provision of psychological services to young adults, especially those from risky family backgrounds. Finally, the FSM remains an important theoretical model for explaining family processes and outcomes for children raised in different family types.

Conclusion

Compared to the intact-family type, single-mother, and, to a lesser extent, multiple-family types were associated with increased risks of all mental health problems. The risks of such problems in single-mother families call for policies on child-rearing practices that reduce subsequent poor mental health outcomes among young adults. Interventions to reduce poor mental health outcomes in the offspring reared in single-mother family types may include training of caregivers in appropriate child-centred techniques and dealing with childhood poverty to alleviate adverse mental health outcomes and to tackle stressful family environments (for example, conflicts). Besides, the provision of psychosocial support services to young adults from vulnerable social backgrounds should be prioritised by both the state and institutions to ensure the stability of future generations.

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References

- Amato, P. R. 2010. "Research on Divorce: Continuing Trends and new Developments." *Journal of Marriage and Family* 72 (3): 650–66. <https://doi.org/10.1111/j.1741-3737.2010.00723.x>.

- Amoateng, A. Y., L. M. Richter, M. Makiwane, and S. Rama. 2015. "Describing the Structure and Needs of Families in South Africa: Towards the Development of a National Policy Framework for Families." Technical report. Human Sciences Research Council.
- Amone-P'Olak, K., H. Burger, J. Ormel, M. Huisman, F. C. Verhulst, and A. J. Oldehinkel. 2009a. "Socio-Economic Position and Mental Health Problems in Pre- and Early-Adolescents: The TRAILS Study." *Social Psychiatry and Psychiatric Epidemiology* 44 (3): 231–38. <https://doi.org/10.1007/s00127-008-0424-z>.
- Amone-P'Olak, K., J. Ormel, M. Huisman, F. C. Verhulst, A. J. Oldehinkel, and H. Burger. 2009b. "Life Stressors as Mediators of the Relation between Socio-Economic Position and Mental Health Problems in Early Adolescence: The TRAILS Study." *Journal of the American Academy of Child and Adolescent Psychiatry* 48 (10): 1031–38. <https://doi.org/10.1097/CHI.0b013e3181b39595>.
- Barrett, A. E., and R. J. Turner. 2005. "Family Structure and Mental Health: The Mediating Effects of Socioeconomic Status, Family Process, and Social Stress." *Journal of Health and Social Behavior* 46 (2): 156–69. <https://doi.org/10.1177/002214650504600203>.
- Betts, K. S., G. M. Williams, J. M. Najman, and R. Alati. 2015. "The Relationship between Maternal Depressive, Anxious, and Stress Symptoms during Pregnancy and Adult Offspring Behavioral and Emotional Problems." *Depression and Anxiety* 32 (2): 82–90. <https://doi.org/10.1002/da.22272>.
- Bravo, A. J., M. R. Pearson, L. E. Stevens, and J. M. Henson. 2016. "Depressive Symptoms and Alcohol-Related Problems among College Students: A Moderated-Mediated Model of Mindfulness and Drinking to Cope." *Journal of Studies on Alcohol and Drugs* 77 (4): 661–6. <https://doi.org/10.15288/jsad.2016.77.661>.
- CSO (Central Statistics Office). 2002/03. *Household Income and Expenditure Survey*. Gaborone: Department of Printing and Publishing Services.
- CSO (Central Statistics Office). 2017. *Botswana Labour Force Survey 2005–2006*. CSO.
- Conger, R. D., K. J. Conger, and M. J. Martin. 2010. "Socioeconomic Status, Family Processes, and Individual Development." *Journal of Marriage and Family* 72 (3): 685–704. <https://doi.org/10.1111/j.1741-3737.2010.00725.x>.
- Conger, K. J., M. A. Rueter, and R. D. Conger. 2000. "The Role of Economic Pressure in the Lives of Parents and their Adolescents: The Family Stress Model." In *Negotiating Adolescence in Times of Social Change*, edited by L. J. Crockett and R. J. Silbereisen, 201–23. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511600906.014>.
- Daryanani, I., J. L. Hamilton, L. Y. Abramson, and L. B. Alloy. 2016. "Single Mother Parenting and Adolescent Psychopathology." *Journal of Abnormal Child Psychology* 44 (7): 1411–23. <https://doi.org/10.1007/s10802-016-0128-x>.

- Derogatis, L. R. 1977. *SCL-90-R, Administration, Scoring, and Procedures Manual for the Revised Version*. Baltimore: Johns Hopkins University.
- Derogatis, L. R. 2000. "Symptom Checklist-90-Revised." In *Handbook of Psychiatric Measures*, edited by A. J. Rush, M. M. first, and D. Blacker, 81–84. Washington: American Psychiatric Association.
- Dintwat, K. F. 2010. "Changing Family Structure in Botswana." *Journal of Comparative Family Studies* 41 (3): 281–297. <https://doi.org/10.3138/jcfs.41.3.281>.
- Dyer, S., C. Lombard, and Z. van der Spuy. 2009. "Psychological Distress among Men Suffering from Couple Infertility in South Africa: A Quantitative Assessment." *Human Reproduction* 24 (11): 2821–2826. <https://doi.org/10.1093/humrep/dep278>.
- Ewing, B. A., K. C. Osilla, E. R. Pedersen, S. B. Hunter, J. N. Miles, and E. J. D'Amico. 2015. "Longitudinal Family Effects on Substance Use among an at-risk Adolescent Sample." *Addictive Behaviors* 41: 185–191. <https://doi.org/10.1016/j.addbeh.2014.10.017>.
- Figlio, D., K. Karbownik, J. Roth, and M. Wasserman. 2016. *Family Disadvantage and the Gender Gap in Behavioral and Educational Outcomes*. (No. 22267). National Bureau of Economic Research. <https://doi.org/10.3386/w22267>.
- Fitzpatrick, K. K., A. Darcy, and M. Vierhile. 2017. "Delivering Cognitive Behaviour Therapy 15 to Young Adults with Symptoms of Depression and Anxiety using a Fully Automated Conversational Agent (Woebot): A Randomized Controlled Trial." *JMIR Mental Health* 4 (2): e19. <https://doi.org/10.2196/mental.7785>.
- Frantz, J., Z. Sixaba, and M. Smith. 2015. "A Systematic Review of the Relationship between Family Structure and Health Risk Behaviours amongst Young People: An African Perspective." *Open Family Studies Journal* 7 (1): 3–11. <https://doi.org/10.2174/1874922401507010003>.
- Gaisie, K. S. 2000. "Family Structure, Gender and Fertility in Botswana." *Botswana Journal of African Studies* 14 (2): 130–147.
- Goin, D. E., R. M. Pearson, M. G. Craske, A. Stein, A. Pettifor, S. A. Lippman, K. Kahn et al. 2019. "Depression and Incident HIV in Adolescent Girls and Young Women in HPTN 068: Targets for Prevention and Mediating Factors." *American Journal of Epidemiology*. <https://doi.org/10.1093/aje/kwz238>.
- Government of Botswana/UN. 2010. *Botswana Millennium Development Goals Status Report 2010*. Gaborone: Government of Botswana/UN.

- Harrison, A., C. J. Colvin, C. Kuo, A. Swartz, and M. Lurie. 2015. "Sustained high HIV Incidence in Young Women in Southern Africa: Social, Behavioral, and Structural Factors and Emerging Intervention Approaches." *Current HIV/AIDS Reports* 12 (2): 207–215. <https://doi.org/10.1007/s11904-015-0261-0>.
- Hetolang, L. T., and K. Amone-P'Olak. 2017. "The Associations between Stressful Life Events and Depression among Students in a University in Botswana." *South African Journal of Psychology* 48 (2): 255–67. <https://doi.org/10.1177/0081246317711793>.
- IBM Corp. 2016. *IBM SPSS Statistics for Windows. Version 24.0*. New York: IBM Corp.
- Kgatitswe, B. M., and K. Amone-P'Olak. 2017. "Motivation to Use Cannabis among Young Adults at a University in Botswana." *African Journal of Drug and Alcohol Studies* 16 (2): 83–94.
- Letamo, G., K. Bainame, and M. Bowelo. 2015. "Nuptiality Levels and Trends in Botswana." *Botswana Notes and Records* 46.
- Ludick, W. K., and K. Amone-P'Olak. 2016. "Temperament and the Risk of Alcohol, Tobacco, and Cannabis Use among University Students in Botswana." *African Journal of Drug and Alcohol Studies* 15 (1): 21–35.
- Mack, K. Y., J. H. Peck, and M. J. Leiber. 2015. "The Effects of Family Structure and Family Processes on Externalizing and Internalizing Behaviors of Male and Female Youth: A Longitudinal Examination." *Deviant Behavior* 36 (9): 740–764. <https://doi.org/10.1080/01639625.2014.977117>.
- Masarik, A. S., and R. D. Conger. 2017. "Stress and Child Development: A Review of the Family Stress Model." *Current Opinion in Psychology* 13: 85–90. <https://doi.org/10.1016/j.copsyc.2016.05.008>.
- McKinnon, L. R., and Q. A. Karim. 2016. "Factors Driving the HIV Epidemic in Southern Africa." *Current HIV/AIDS Reports* 13 (3): 158–169. <https://doi.org/10.1007/s11904-016-0314-z>.
- Michalopoulos, L. T. M., S. N. Baca-Atlas, S. J. Simona, T. Jiwatram-Negrón, A. Ncube, and M. B. Chery. 2017. "Life at the River is a Living Hell: A Qualitative Study of Trauma, Mental Health, Substance Use and HIV Risk Behavior among Female Fish Traders from the Kafue Flatlands in Zambia." *BMC Women's Health* 17 (1): 15. <https://doi.org/10.1186/s12905-017-0369-z>.
- Modecki, K. L., M. J. Hagan, I. Sandler, and S. A. Wolchik. 2015. "Latent Profiles of Non-Residential Father Engagement Six Years after Divorce Predict Long-Term Offspring Outcomes." *Journal of Clinical Child and Adolescent Psychology* 44 (1): 123–136. <https://doi.org/10.1080/15374416.2013.865193>.

- Moitlakgola, K. K., and K. Amone-P'Olak. 2015. "Stressful Life Events and Alcohol Use among University Students in Botswana." *African Journal of Drug and Alcohol Studies* 14 (2): 81–93.
- Mongale, N., and K. Amone-P'Olak. 2019. "Childhood Family Environment and Depression in Early Adulthood in Botswana." *South African Journal of Social Work and Social Development* 33 (3): 18. <https://doi.org/10.25159/2415-5829/6176>.
- Mossakowski, K. N. 2015. "Disadvantaged Family Background and Depression among Young Adults in the United States: The Roles of Chronic Stress and Self-Esteem." *Stress and Health* 31 (1): 52–62. <https://doi.org/10.1002/smi.2526>.
- Ntinda, K., E. Mpofu, B. Bender, and S. Moagi. 2015. "Botswana School Child Parents: Their Personal and Community Relationships Contexts for Counselling." *British Journal of Guidance and Counselling* 43 (5): 546–558. <https://doi.org/10.1080/03069885.2014.939944>.
- Pearce, A., S. Hope, H. Lewis, and C. Law. 2014. "Family Structure and Socio-Emotional Wellbeing in the Early Years: A Life Course Approach." *Longitudinal and Life Course Studies* 5 (3): 263–82. <https://doi.org/10.14301/llcs.v5i3.264>.
- Perales, F., S. E. Johnson, J. Baxter, D. Lawrence, and S. R. Zubrick. 2017. "Family Structure and Childhood Mental Disorders: New Findings from Australia." *Social Psychiatry and Psychiatric Epidemiology* 52 (4): 423–33. <https://doi.org/10.1007/s00127-016-1328-y>.
- Perales, F., M. O'Flaherty, and J. Baxter. 2016. "Early Life Course Family Structure and Children's Socio-Emotional Development: A View from Australia." *Child Indicator Research* 9 (4): 1003–1028. <https://doi.org/10.1007/s12187-015-9356-9>.
- Schleider, J. L., B.F. Chorpita, and J. R. Weisz. 2014. "Relation between Parent Psychiatric Symptoms and Youth Problems: Moderation through Family Structure and Youth Gender." *Journal of Abnormal Child Psychology* 42: 195–204. <https://doi.org/10.1007/s10802-013-9780-6>.
- Schneiders, J., M. Drukker, J. van der Ende, F.C. Verhulst, J. van Os, and N. A. Nicolson. 2003. "Neighbourhood Socioeconomic Disadvantage and Behavioural Problems from Late Childhood into Early Adolescence." *Journal of Epidemiology and Community Health* 57 (9): 699–703. <https://doi.org/10.1136/jech.57.9.699>.
- Stansfeld, S., J. Head, M. Bartley, and P. Fonagy. 2008. "Social Position, Early Deprivation and the Development of Attachment." *Social Psychiatry and Psychiatric Epidemiology*. <https://doi.org/10.1007/s00127-008-0330-4>.
- UNICEF Botswana. 2012. *Annual Report 2011*. UNICEF Botswana Country Office 2012.
- Van Breda, A. D. 2013. "Psychosocial Vulnerability of Social Work Students." *Social Work Practitioner-Researcher* 25 (1): 19–35.

- Van Breda, A. D. 2017. "Students are Humans too: Psychosocial Vulnerability of First-Year Students at the University of Johannesburg." *South African Journal of Higher Education* 31 (5): 246–62. <https://doi.org/10.20853/31-5-1567>.
- Wadsworth, M. E., T. Raviv, C. D. Santiago, and E. M. Etter. 2011. "Testing the Adaptation to Poverty-Related Stress Model: Predicting Psychopathology Symptoms in Families Facing Economic Hardship." *Journal of Clinical Child and Adolescent Psychology* 40 (4): 646–57. <https://doi.org/10.1080/15374416.2011.581622>.
- WHO (World Health Organization). 2014. *Health for the World's Adolescents: A Second Chance in the Second Decade*. Geneva: WHO.
- World Bank. 2015. *Botswana Poverty Assessment: Despite Significant Decline in Poverty, many nearly half of them Children, are still Poor*. Report No 88473-BW. Washington: World Bank. <http://www.worldbank.org/en/country/botswana/publication/botswana-poverty-assessment-december-2015>.