# THE SOCIAL DISORGANISATION THEORY AND COMMUNITY EFFECTS ON TEENAGE PREGNANCY IN SOUTH AFRICA

**Extended Abstract**

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ABSTRACT

**Background:** Teenage pregnancy (TP) remains a great social challenge in sub-Saharan Africa. Past research has shown factors associated with the phenomenon in South Africa (Mcleod, 2010; Panday, 2009; Jewkes, 2009). Despite efforts to curb TP, reports indicate a persistently high prevalence in South Africa. The influence of social disorganisation (SD) has not been explored.

**Aim:** To examine the effect of precursors and characteristics of SD on TP

**Methods:** Data of pregnancy experience among females aged 12 to 19 years were extracted from the 2011 census. Descriptive statistics and multilevel logistic modeling were performed.

**Results:** Precursors of SD at household level were positively associated with pregnancy where as community level precursors and characteristics were negatively associated with TP in South Africa.

**Conclusion:** Household experience of SD precursors increases the likelihood of TP. Therefore, policies should be created to minimise the levels and effects of household precursors of SD in South Africa.

**BACKGROUND**

Teenage pregnancy is a major health and demographic issue globally with 16 million teenage females giving birth in 2014 (World Health Organization, 2014). The global teenage birth rate in 2013 was 52 births per 1,000 women aged 15-19 (Clifton and Hervish, 2013). However, this only represents a fraction of teenage pregnancies: defined as pregnancies that occur below the age of 20 (Loaiza and Liang, 2013). Sub-Saharan Africa in 2013 had the highest teenage birth rate at 101 births per 1000 women aged 15 to 19 (Clifton and Hervish, 2013;United Nations Population Fund, 2013). This has been associated with the occurrence of child marriage, cultural factors as well as low levels of socio-economic status and education (Demissie, 2008;Durojaye, 2011).

The level of teenage pregnancy in South Africa remains high at 50 births per 1000 15-19 year old women (Clifton and Hervish, 2013). This is in spite of a decrease of more than 20% in the teenage pregnancy rate since 1996 (Chohan and Langa, 2011). Over the years, South African studies have attempted to explore the predictive influence of demographic and socio-economic factors on teenage pregnancy (Ibisomi and Odimegwu, 2007;Malema, 2000;Mchunu et al., 2013). These studies have found increasing age, low levels of education and poverty as significant predictors while those looking at household factors found household size and socio-economic status as consistent predictors of teenage pregnancy (Panday and UNICEF, 2009;Vundule et al., 2001;Willan, 2013). Additionally, a study commissioned by government in Limpopo found culture, gender inequality and gender stereotyping to be significant community level predictors of teenage pregnancy (Limpopo Pop. & Dev. Directorate, 2012).

However, other studies on teenage pregnancy by Mkhwanazi (2009), Jewkes et al (2009) and Panday et al (2009) have recommended the need to study the social factors leading to teenage pregnancy due to cultural views, the dynamics of families and communities as well as existing racial differences. They argue that the neglect of social and structural predictors of teenage pregnancy has led to its continued persistence. Moreover, great disparities in teenage pregnancy based on location exist in South Africa with lower levels of zero to five percent occurring in affluent areas as opposed to levels as high as 60-80% of teenage females having ever been pregnant in deprived areas (IRIN Africa, 2007;Macleod and Tracey, 2009). This suggests reasons beyond the individual level predisposing young women to higher levels of risk in certain areas. In addition, past studies looking at household and community variables have used incorrect methodology failing to account for multiple level occurring parameters (Limpopo Pop. & Dev. Directorate, 2012;Vundule et al., 2001). Therefore, there is a need to explore further factors existing at household and community level that may be driving teenage pregnancy in South Africa. A critical example of such factors is social disorganisation precursors and characteristics. Social disorganisation is defined as the inability of community members to achieve shared values or to solve jointly experienced problems and manifests in the household and society (Bursik, 1988). Similar to teenage pregnancy, variations in violence and crime based on location have been identified and levels of social disorganisation characteristics and precursors have been shown to explain this (Elliot and Merrill, 1961;Kubrin, 2009). The social disorganisation theory was developed by Shaw and McKay in 1942 and is classically used to explain the levels of crime in different contexts (Kubrin, 2009;Shaw and McKay, 1942). The theory posits that crime is a function of neighborhood dynamics rather than a function of the individuals thereby occurring more often in ‘bad’ neighborhoods as opposed to ‘good’

neighborhoods (Shaw and McKay, 1942). The theory has been used to study violence, crime levels, educational behaviour of adolescents and child sexual abuse (Bowen et al., 2002;McNulty and Bellair, 2003;Tolan et al., 2003;Yahaya et al., 2013).

At household level South Africa shows high levels of social disorganisation precursors. The study by Holborn and Eddy (2011) reported a total of 30763 divorces nationally with 56% of these involving families with children. The study showed that more than 60% of urban families in all race groups were headed by female single parents. At community level South Africa also exhibits social disorganisation with high levels of unemployment and gender based violence. The unemployment rate ranges from 20% to 30% depending on location in the country (Kingdon and Knight, 2004;Klasen and Woolard, 2009). South Africa is known to have one of the highest levels of gender based in the world (Durojaye, 2011). Jewkes et al. (2010b) found that 23% of women aged 15 to 26 years old had experienced more than one episode of physical or sexual intimate partner violence in South Africa. However,Wilson (2012) reported that 15% of learners had ever been forced to have sex while Swart et al. (2002) found that half of all adolescents in romantic relationships had experienced gender based violence. Consequently, it is possible that social disorganisation may influence teenage pregnancy as it influences crime in South Africa.

## METHODS

The South African 2011 census was utilised to model teenage pregnancy among 12 to 19 year old girls on individual, household and community variables. Teenage pregnancy is proxied by teenage births in the census data as past local research has shown that 95% of unintended pregnancies result in birth (Marteleto et al., 2008). Particularly, teenagers that gave birth in the past year were compared to those that did not.

**Individual, household and community variables:** Individual level variables in the analyses included age, marital status, place of residence, education attainment, race, province and employment status. About 5% of observations were excluded from analysis due to missing data for key variables. Household level variables of the study were household sex composition, household head type and household head employment status. Household sex composition classified households by the sex of members into five categories namely: only male, predominantly male with some females, equally composed, predominantly female with some males and only female households. Predominantly male and female households required more than half of the household members to be male or female respectively in the existence of the other sex. Household head type classified household heads by sex and age into four options of male adults, female adults, male minors and female minors. Household head employment status classified the status of employment of the household head into five selections that is employed, unemployed, discouraged work seeker, not economically active and out of working age.

Social disorganisation precursors included in the study were household and community levels of family disruption and ethnic diversity. Family disruption was defined as households headed by females who had never married, were divorced, widowed or separated from their husbands. Ethnic diversity was calculated through the ethnicity of household members to that of the household head while accounting for the household size. This classified homes as having insignificant levels of ethnic diversity (0-30%) and significant levels (More than 30%). The distribution of households with family disruption and significant ethnic diversity allowed creation of the community levels of

family disruption and ethnic diversity. Finally the community level of working-aged individuals who were not in education, employment or training (NEETs) was used as an indicator of social disorganisation to proxy the occurrence of community loitering. All community level factors were further categorised into low, medium and high levels uniformly.

**Statistical Analyses:** Teenage pregnancy was fitted to the models. This is a dichotomous outcome with possible responses of 'yes' or 'no'. Social disorganisation precursors and indicators at the household and community levels were the main variables of interest and socio- demographic and economic variables were controlled for in the models. Multivariate incremental modelling entailed addition of individual variables in Model one then household variables in Model two followed by all social disorganisation-related factors in Model three.

Representation of the model is as follows:

$$\log\left(\frac{\pi_{ijk}}{1-\pi_{ijk}}\right) = \delta_{0ijk} + \sum_{ijk=1}^{\omega} \delta_{ijk}\, z_{ijk} + \varepsilon_{ijk} \quad \text{.....(1)}$$

Where: $\pi_{ijk}$=probability of having a positive event for the $i^{th}$ individual in the $j^{th}$ household of the $k^{th}$ community δs are coefficient parameters of the model zs are regressors $\varepsilon_{ijk}$ are the residual errors

The three-level model was needed to establish the variation between households as well as the variation between communities in the risk of outcome. Simple logistic regression would fail to capture this accurately as members within households as well as households within communities are similar therefore violating the assumption of independence of residuals (Kawachi and Subramanian, 2007;Merlo, 2003;Subramanian, 2004). This would result in underestimation of standard errors and very small p-values.

## RESULTS

**Descriptive Outcome:** A total of 142,913 teenage females had been pregnant within the past twelve months from the time of the 2011 census while 3,499,689 (96%) of them had not. The median age of teenage females was 16 years old and the inter-quartile range was 4 years. The majority of teenage females in South Africa were never married, black, unemployed, from rural areas, from households that were predominantly female, with no family disruption or ethnic diversity with household heads that were female adults and not economically active. Additionally, the majority of girls lived in KwaZulu Natal and came from communities with high levels of family disruption, low levels of ethnic diversity and low levels of NEETs.

Girls that had been pregnant in the past year had a median age of 18 years with an inter-quartile range of two years. These girls were predominantly black, never married, from urban formal areas, attending secondary school and from KwaZulu Natal. The majority of them had female adult household heads that were not economically active and came from households that were predominantly female with no family disruption or significant ethnic diversity. Finally, most pregnant teenagers resided in communities with high levels of family disruption, low levels of ethnic diversity and low levels of NEETs.

**Inferential Outcome:** Model one showed all individual factors to be associated with pregnancy among teenagers with all races except blacks and increasing levels of education decreasing the likelihood of pregnancy. The addition of household socio-demographic variables in model two did not change these effects in level nor significance yet household sex composition, household head type and household head employment status were all

positively associated with teenage pregnancy. With the addition of social disorganisation precursors and indicators at household and community levels the effects of provincial residence and household head type were decreased notably while the other variables were not substantially changed.

Finally, at household level family disruption increased the odds of pregnancy by 15% while medium and high community levels of family disruption decreased the likelihood. Household ethnic diversity had no effect on teenage pregnancy while medium community levels of ethnic diversity decreased the odds of pregnancy among teenagers by 21% . Also, high levels of the same entity had positive yet minimal and insignificant (2%) effects on teenage pregnancy. Medium community levels of NEETs increased the likelihood of teenage pregnancy by 9% at 1% significance level yet high community levels of NEETs decreased the odds of pregnancy by 5% at the 10% significance level. All the models were statistically significant with a p-value of 0.00.

## CONCLUSION

This study sought to examine the effect of precursors and indicators of social disorganisation on teenage pregnancy in South Africa. The study found that household experience of social disorganisation increases the likelihood of teenage pregnancy more than community level experience of social disorganisation precursors and indicators. Additionally, social disorganisation at household level was generally disadvantageous and a risk factor while community levels of social disorganisation precursors and indicators showed variations in the association with teenage pregnancy. Therefore, deliberate policies should focus on minimising the levels and effects of household family disruption in South Africa. In particular, social security initiatives need to be created targeting women that are heads of households yet not married in order to prevent teenage pregnancy nationally.