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PSYCHOLOGY

CORRELATES OF MAJOR DEPRESSIVE DISORDER AND EMOTION DYSREGULATION AMONG PARENTS OF PREGNANT TEENAGERS AT AIC IN WAMUNYU DISTRICT CHURCH COUNCIL, MACHAKOS COUNTY, KENYA

[1*] Reuben Muthengi, [2]Samuel Ojuade, [3]Niceta Ireri

[1]School of Education and Social Sciences, Africa International University

muendomuthengi@yahoo.com

[2] School of Education and Social Sciences, Africa International University

samuel.ojuade.aiu.ac.ke

[3] School of Education and Social Sciences, Africa International University
niceta.ireri@aiu.ac.ke

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ABSTRACT

Purpose of the study: The purpose of this study was to measure correlates of major depressive disorder and emotion dysregulation among parents of pregnant teenagers at AIC in Wamunyu District Church Council, Machakos County, Kenya

Problem statement: There is growing interest in studying the role of emotion regulation in major depressive disorder. Earlier studies have found that depressed individuals exhibit impairments in their ability to use emotion regulation strategies effectively, and rather, they are prone to use ineffective strategies such as rumination to regulate emotions. Major depressive disorder (MDD) and emotion dysregulation are significant psychological concerns that affect individuals undergoing stressful life events, such as parenting a pregnant adolescent. In Kenya, the phenomenon of teenage pregnancy remains a pressing social and public health challenge, often placing emotional, financial, and psychological strain on families, particularly parents. While extensive research has been conducted on teenage pregnancy and its effects on adolescents, comparatively little attention has been paid to the psychological impact on parents, who are also deeply affected by the associated stigma, social rejection, and economic burdens.

Method/methodology: This study adopted a quasi-experimental design. The participants were selected and assigned by the researcher and not by randomization. The study population included parents of teenagers aged 10-19 years who got pregnant in Kenya. The target population in this study comprised all the parents of pregnant teenagers in Machakos County. A total sample size of 108 participants was used. Emotion Regulation Inventory (ERI) was used in collecting data at from the participants. Analysis of Variance (ANOVA), regression models, and independent sample T test were used to show differences between the independent and dependent variables.

Results of the study: The analysis revealed that dysfunctional emotion regulation stood out as the most important correlate of major depressive disorder in this population. It further revealed that the selected independent variables did not significantly predict depression scores at baseline among the participants. In practical terms, although variables like emotion regulation dimensions and sociodemographic characteristics were considered, they did not provide a meaningful explanation for the variability in depressive symptoms at the start of the study period.

Conclusion and policy recommendation: The findings highlighted the critical role of emotional coping mechanisms in the mental health of parents dealing with the challenges of adolescent pregnancy and suggest a need for interventions that target maladaptive emotion regulation strategies to help reduce depression among affected individuals.

***Key Words*:** *Correlates, Emotional Dysregulation, Teenage Mothers*

1. INTRODUCTION

Teenage pregnancy is a significant public health issue, defined by the World Health Organization (WHO) as pregnancies occurring in girls aged 10 to 19 years (World Health Organization [WHO], 2017). It also refers to pregnancies in teenagers who have not yet reached the legal age of adulthood in their country (Cook & Cameron, Social issues of teenage pregnancy, 2015). Globally, over 16 million teenage girls give birth annually, accounting for 11% of all births, with more than 90% of these births occurring in developing African countries (Ganchimeg, et al., 2014). A review of 52 studies from 24 African nations revealed that 18.8% of African adolescents become pregnant, with the highest proportion in East Africa at 21.5% (Kassa, Arowojolu, Odukogbe, & Yalew, 2018).

In Kenya, between July 2016 and June 2019, 378,397 teenagers aged 10-19 years became pregnant, including 28,932 girls aged 10-14 years and 349,465 girls aged 15-19 years (Muturi, 2021). As of 2019, Kenya had the third-highest teen pregnancy rate in Africa (Global Childhood Kenya, 2019). Teenage pregnancies are a global concern, affecting high-, middle-, and low-income countries. However, they are more prevalent in marginalized communities, driven by factors such as poverty, lack of education, and unemployment (World Health Organization, 2020). Approximately 12 million teenagers aged 15-19 years and 770,000 girls under 15 years give birth each year in developing countries (WHO, 2019).

In the United States, teenage pregnancies have been declining since 1991. For instance, the rate dropped from 17.4 per 1,000 females in 2018 to 16.7 per 1,000 females in 2019 (Martin, Hamilton, Osterman, and Driscoll, 2021). In 2020, teenage birth rates fell by 7% for females aged 15-17 years and 4% for those aged 18-19 years (Martin et al., 2021). In Europe, teenage pregnancy rates have also been decreasing. In the UK, although rates were higher compared to the rest of Europe, they have been steadily declining. For example, the rate of teenage pregnancies in England and Wales decreased from 21.0 conceptions per 1,000 girls aged 15-17 years in 2015 to 20.86 per 1,000 in 2017 (Cook & Cameron, 2017).

In Africa, teenage pregnancy rates are rising. A systematic review of 52 studies involving 254,350 participants from 24 African countries showed an overall prevalence of 18.8%, with the highest rates in East Africa at 21.5% and the lowest in Northern Africa at 9.2% (Kassa,

Arowojolu, Odukogbe, & Yalew, 2018). The Republic of Congo had the highest prevalence at 44.3%, while Rwanda had the lowest at 7.2% (Ahinkorah, Kang, Perry, Brooks, & Hayen, 2021).

Kenya has one of the highest teenage pregnancy rates globally. Data from the Kenya Data and Health Survey (2014) indicated that 1 in 5 girls aged 15-19 years is either pregnant or already a mother. Between July 2016 and June 2017, 378,397 teenagers aged 10-19 years became pregnant. In 2019, Kenya had the third-highest teen pregnancy rate worldwide, with 82 births per 1,000 (Muturi, 2021). During the COVID-19 lockdown, 3,964 teenagers in Machakos County alone became pregnant, including 200 girls aged 12-14 years (Oduor, 2020).

Teenage pregnancy is a social and public health problem with detrimental effects on both parents and teenagers. Teenage mothers are often not physically, psychologically, or economically prepared for motherhood, leading to adverse consequences for their health, their child's health, and society's overall well-being (Mgbokwere, Esienumoh, & Uyana, 2015).

Parents of pregnant teenagers often experience sadness, depression, and other mental health issues. They may feel shock, anger, disappointment, and concern about their child's future, and regret not preventing the pregnancy. Studies show that 80% of teenage mothers continue to live with their families for up to a year after giving birth, significantly impacting the family dynamics (Williamson, 2018).

Research has demonstrated a significant link between major depressive disorders and emotion dysregulation. Emotion dysregulation is defined as difficulty in managing and assessing emotional experiences, adjusting to the intensity and duration of emotional issues, and controlling emotional responses to meet situational demands from both internal and external triggers. According to Weibenga et al. (2021), emotion dysregulation affects the clinical progression of both major depressive disorder and bipolar disorders, and it contributes to the biological factors that increase suicide risk in both adults and adolescents. Additionally, Binnewies et al. (2021) suggested in a longitudinal study that susceptibility to MDD is characterized by biased processing of negative information, which promotes negative affect, and by an inability to effectively regulate emotional states, leading to prolonged periods of sadness that can spiral into depression. Therefore, dysfunctional emotion regulation may not only be linked to the development of a depressive state but also to the persistence of symptoms and recurrence of depressive episodes (de Prisco, et al., 2022).

An empirical study found a positive correlation between emotion dysregulation and major depression, indicating that depression is associated with poor emotion regulation skills. The study also reported that a depressed mood increases the intensity of negative emotional reactivity and that negative cognitive evaluations and distortions lead to the emergence of negative emotions (Aksu, Eser, & Huseynbalayeva, 2023). Similarly, a systematic review and meta-analysis of evidence from major literature databases showed a positive correlation between measures of emotion regulation and measures of depressive symptoms (Oliva, et al., 2023).

Statement of the Problem

Available data from WHO (2020) indicates that teenage pregnancy is a global issue, predominantly affecting low-income and developing countries. WHO (2019) further states that countries facing poverty and lack of employment opportunities are at higher risk of teenage pregnancies. Each year, approximately 12 million teenagers aged 15-19 years give birth, and about 770,000 girls under 15 years become pregnant in developing countries. Statistics reveal that complications during pregnancy and childbirth are the leading cause of death among girls aged 10-19 years (WHO, 2020). UNICEF (2021) adds that teenage mothers aged 10-19 years face higher risks of puerperal endometritis and systemic infections compared to women aged 20-24 years, and their babies are at higher risk of low birth weight, pre-term delivery, and severe neonatal conditions.

A study by Kassa et al. (2018) showed that the proportion of teenage pregnancies was higher in East Africa at 21.5% compared to other African regions. UNFPA Kenya (2021) similarly reported that the rates of teenage pregnancy in Kenya were becoming the highest in the world, indicating that one in every five teenage girls is either pregnant or already a mother. This implies that Kenya had the third-highest teenage pregnancy rates globally, with 82 births per 1,000 births (Muturi, 2021). The COVID-19 lockdown exacerbated the situation, with data showing that within three months, 152,000 Kenyan teenagers became pregnant. Specifically, the highest rates of teenage pregnancy in Kenya were recorded in Machakos County, where about 40% of teenage pregnancies occurred within three months (Partridge-Hicks, 2020).

While many studies have focused on the challenges faced by pregnant teenagers, little attention has been given to their parents. WHO (2016) suggests that parents of pregnant teenagers experience sadness and are at risk of developing depression and a serious emotion dysregulation. They may struggle to control and modulate intense emotions upon learning that their teenage child is going to become a parent. Despite the likelihood of high scores on emotion dysregulation and its aftermath among parents of teenage mothers, information on its correlates is not well-documented, especially in Wamunyu DCC. Given the adverse health outcomes associated with Emotion Dysregulation, data on correlates of major depressive disorder and emotion dysregulation among parents of pregnant teenagers remain scanty. Therefore, this study aims to address this gap by exploring the correlates of major depressive disorder and emotion dysregulation among parents of pregnant teenagers in Wamunyu DCC.

Research Objective

To measure the correlates of major depressive disorder and emotion dysregulation among parents of pregnant teenagers at AIC in Wamunyu District Church Council, Machakos County, Kenya.

Research Question

What are the correlates of major depressive disorder and emotion dysregulation among parents of pregnant teenagers at AIC in Wamunyu District Church Council, Machakos County, Kenya?

2. THEORETICAL FRAMEWORK

This study utilized Biosocial Theory of Emotion regulation and depression (Linehan 1993). In her work, Linehan (1993) developed the *biosocial theory*, which explains behavioral

development through the interaction between biological predispositions and environmental influences. According to Linehan, individuals with high emotional sensitivity who experience frequent invalidation of their emotional expressions are at risk of developing emotional dysregulation. This condition is characterized by difficulty in regulating emotional responses and managing impulsive behaviors during heightened emotional states. Her model is one of the most detailed frameworks explaining the roots of mood disorders, including major depressive disorder, emotional dysregulation, suicidal ideation, and borderline personality disorder (Feigenbaum, 2007).

Southward and Cheavens (2020) further explain that biosocial theory identifies deficits in emotion regulation skills as central in individuals with emotional dysregulation. Such individuals may either lack effective strategies or fail to use them properly. Brereton and McGlinchey (2020) also note that early exposure to invalidating environments can contribute to the emergence of maladaptive coping mechanisms or other mental health conditions such as depression in emotionally vulnerable individuals.

From a biological perspective, biosocial theorists highlight genetic influences as key contributors to the development of emotional dysregulation and mood disorders like major depression (Smoller, 2016). Research from twin and family studies has shown that heredity plays a significant role in the onset of psychological disorders, with heritability estimates for depression ranging from 35% to 50% (Yang et al., 2016). Linehan's theory also posits that imbalances in critical neurotransmitters—namely dopamine, serotonin, and norepinephrine—are linked to emotion dysregulation and depressive symptoms.

Reiss and Dombeck (2007) describe monoamine neurotransmitters as brain chemicals that regulate emotions, memory, and arousal. Serotonin, in particular, is essential for mood stabilization and cognitive functioning. Disruptions in serotonin levels have been associated with depressive states. Furthermore, empirical studies have indicated that reduced dopamine function is linked to depression and emotional instability. These impairments may result from decreased dopamine release or inefficiencies in neural signal processing, contributing to the development of mood disorders (Dunlop & Nemeroff, 2007).

In addition to genetic and neurotransmitter-related factors, the brain's limbic system also plays a crucial role in emotional regulation. This system, which includes structures such as the hippocampus, hypothalamus, cingulate gyrus, and anterior thalamic nuclei, governs emotional processing (Palazidou, 2012). Emotional regulation depends on a fronto-limbic network, where the prefrontal cortex modulates the activity of the amygdala—a region central to emotional responses. Disruptions in this network are implicated in disorders like major depressive disorder, borderline personality disorder, bipolar disorder, and ADHD, all of which share emotional dysregulation as a core feature (Shaw et al., 2014).

Another biological mechanism implicated in mood and emotional disorders is the Hypothalamic-Pituitary-Adrenal (HPA) axis. Studies indicate that overactivity of this system is associated with depression and cognitive difficulties. Dysregulation in cortisol receptors—mineralocorticoid and glucocorticoid—within this axis is thought to contribute to both emotional and cognitive dysfunctions (Joëls et al., 2008).

From the environmental standpoint, biosocial theory also underscores the role of social contexts. Linehan (1993) suggests that individuals with disorders such as borderline personality disorder or major depression often grow up in environments that consistently invalidate their emotional experiences. This invalidation, when combined with a biological predisposition for emotional sensitivity, leads to significant difficulties in emotional regulation. According to Linehan, the interaction between an emotionally vulnerable temperament and a toxic environment creates dysfunction across emotional and behavioral domains. Specifically, she emphasizes that emotional dysregulation and invalidation are the two central problems for individuals with borderline personality disorder, and both are implicated in a range of mood disorders.

3. EMPIRICAL REVIEW

There is increasing scholarly interest in the link between emotion regulation and major depressive disorder (MDD). While empirical studies offer evidence supporting this relationship, several limitations should be noted in the current body of research.

For example, D'Agostino et al. (2017) reported that individuals with depression demonstrate significant difficulties in employing effective emotion regulation strategies and tend to rely on maladaptive strategies like rumination. However, their study provides limited insight into the directionality of this relationship due to its cross-sectional design. Without longitudinal data, it remains unclear whether emotion dysregulation contributes to the onset of depression or if depressive symptoms impair regulatory capacities.

Similarly, Stephanou et al. (2017) used functional MRI to explore emotion regulation in healthy adults, identifying increased activation in the prefrontal cortex and decreased activation in limbic regions such as the amygdala. While these neurobiological findings help to establish a correlation between brain function and emotion regulation, the generalizability of these results to clinical populations (i.e., individuals diagnosed with MDD) is limited. Moreover, focusing exclusively on healthy participants limits the clinical relevance of the findings, especially in terms of intervention development.

Christ et al. (2019) examined 276 South African female college students and found that emotional dysregulation and interpersonal problems mediated the relationship between childhood emotional abuse and depressive symptoms. Despite the robustness of the mediation model, the reliance on self-reported measures raises concerns about recall bias, particularly when assessing early life experiences such as childhood abuse. In addition, the homogeneity of the sample (i.e., young adult females from a specific cultural and geographic context) restricts the generalizability of the findings to broader or more diverse populations.

In another study, Norouzi et al. (2023) and Rezaie et al. (2023) investigated the associations between sleep quality, physical activity, and emotion regulation in patients with MDD. Although the study highlights important lifestyle factors contributing to emotional dysregulation, the cross-sectional nature once again precludes causal inferences. It is unclear whether poor sleep and low physical activity lead to emotion dysregulation, or if dysregulated emotions contribute to poor sleep and reduced motivation for physical activity—both common features in depression.

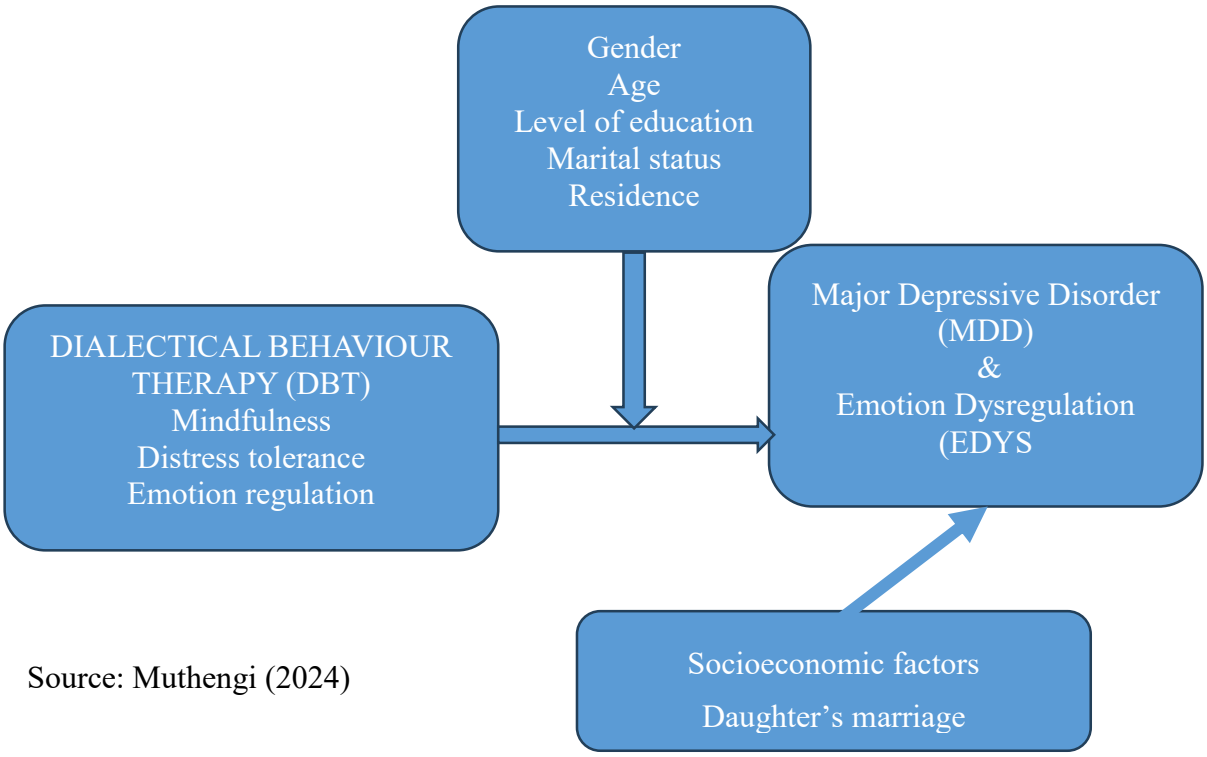
Meta-analytic findings by Liu and Thompson (2017), as well as Schäfer et al. (2017), underscore the significant correlations between MDD and emotion regulation strategies. Specifically, depression has been linked to greater use of maladaptive strategies (e.g., suppression, rumination) and less use of adaptive strategies (e.g., reappraisal, distraction). While meta-analyses provide strong statistical support through data aggregation, they are also constrained by the methodological heterogeneity of the included studies. Differences in sample demographics, emotion regulation measures, and diagnostic criteria for MDD can compromise the internal validity of their conclusions.

Overall, while the empirical literature points to a strong association between emotion dysregulation and depression, significant methodological limitations persist. These include a predominance of cross-sectional designs, reliance on self-report data, limited population diversity, and restricted clinical relevance in neurobiological studies. Future research would benefit from longitudinal, multi-method approaches that incorporate diverse samples and experimentally test causality to better understand the dynamics of emotion regulation in depressive disorders.

Conceptual Framework

According to Shikalepo (2020), a conceptual framework is the end result of bringing together several related concepts to explain and give a broader understanding of the phenomenon under research. Further, the conceptual framework is the logical conceptualization of the entire research project, it is a metacognitive, reflective and operational element of the entire research process. (Kivunja, 2018). Therefore, in this present study, the underlisted conceptual framework emerges from wide and intensive review of relevant literatures, and links research projects to ongoing debate in the focus of the researcher.

Figure 1: Conceptual framework



Source: Muthengi (2024)

The conceptual frame as indicated in Figure 1 shows how variables are interlinked, how researcher carried out the analysis and how subsequent model will look like. This study therefore consists of independent variables, dependent variable, effect modifiers and cofounders. According to Crossman (2020), the independent variable is a factor that the researcher measures and manipulates to determine its relationship to an observed phenomenon. In a study like this, independent variable is an antecedent condition that the researcher presumes to affect a dependent variable. It is a predictor variable because it helps predict the amount of variation that occurs in another variable. In this regard, the independent variable in this study, being an intervention experimental study, will be dialectical behaviour therapy (DBT). It is the independent variable in this study because the researcher will manipulate and measure DBT to determine its relationship to an observed phenomenon, which is a major depressive disorder.

Similarly, another variable in this study is the dependent variable. This variable is the principal focus of any research interest. According to Creswell (2014), the researcher in experimental research focuses on causal relationships, also known as functional relationships, and so, manipulates a variable to see its effects on another variable. Research begins with an effect and then searches for its causes. The manipulative variable, which in some instances could be more than one in number, is referred to as the independent variable, while the variable that is expected to be affected by the manipulation is called the dependent variable. The dependent variable, a criterion or outcome variable, represents the presumed effect or consequence. Therefore, this study's consequential variable, the dependent or outcome variable, is a major depressive disorder. The researcher presumes major depressive disorder as a variable that manipulation of DBT will affect.

Confounders are another variable that the researcher considers in this study. This is a variable that is either assumed or excluded from the investigation but has to be controlled because it interferes with the relationship between the dependent and independent variable. This is practicable in experimental research, confounding variables are variables that may affect research outcomes but have not been adequately considered in the study (Gravetter & Forzano, 2018). Cofounders exist in all studies and can potentially affect the measurement of study variables and the relationship among these variables. Cofounders affect the outcome of the experiment probably in a hidden manner. Many of these confounding variables could preclude valid conclusions of the study. Many research conclusions are highly questionable because of the influence of these cofounding variables. The researcher identifies socioeconomic factors, daughter's marriage after found to be pregnant, and the family of teenager who impregnates their daughter as the cofounders in this study.

The final variable that the researcher in this study considers is effect modifiers. Effect modification describes the situation where the magnitude of the effect of an exposure variable on an outcome variable differs depending on a third variable (Leedy, 2019). In other words, the presence or absence of an effect modifier changes the association of exposure with the outcome of interest. In this study, the effect modifiers are age, gender, level of education, marital status, place of residence, and leadership position of the participants in the community or church because the dependent/outcome variable will differ depending on the third variable.

4. METHODOLOGY

This study adopted a mixed-methods approach, combining both quantitative and qualitative methodologies. While this strategy enhances the depth and breadth of data collected, the integration of findings from both approaches was not clearly described, potentially limiting the coherence and interpretive power of the results. The interpretive stance taken by the researcher is suitable for exploring subjective experiences, but it may introduce bias, particularly when the same researcher is responsible for both data collection and interpretation without clear triangulation.

Participants were recruited from AIC churches in Wamunyu District Church Council, Machakos County, Kenya—using purposive sampling. While purposive sampling is often used in quasi-experimental designs for practical and contextual relevance, it limits the generalizability of findings beyond the sampled population. The heavy reliance on a single religious community further narrows the representativeness of the sample, possibly excluding individuals with different socio-cultural or religious backgrounds who may experience the intervention differently.

Although simple random assignment was used to allocate participants into control and experimental groups, the absence of true randomization in participant recruitment introduces potential selection bias. The quasi-experimental design, specifically the non-equivalent control group pre-test-post-test model, is practical for field-based research but lacks the internal validity of randomized controlled trials. Notably, without random assignment at the recruitment stage, differences between groups at baseline—despite efforts to match group characteristics—cannot be entirely ruled out.

Moreover, the study's assessment strategy—comprising baseline, midline, and end-line measurements—provides useful longitudinal data. However, the ten-week follow-up period may be insufficient to assess long-term effects or sustainability of the intervention. The potential influence of confounding variables during the follow-up phase is not addressed, which could compromise the attribution of observed effects solely to the intervention.

The study utilized a researcher-generated socio-demographic questionnaire alongside the Emotion Regulation Inventory (ERI). While ERI is a validated and reliable tool, the researcher-generated questionnaire was tested for psychometric properties of reliability and validity. Additionally, the training of three research assistants was helpful for standardization. Ethical clearance and permits were appropriately obtained, and community engagement was demonstrated through consultation with church administrators. Finally, clear inclusion and exclusion criteria was well established.

5. RESULTS AND DISCUSSION

This study meant to measure the correlates of major depressive disorder and emotion dysregulation among parents of pregnant teenagers at AIC in Wamunyu District Church Council, Machakos County, Kenya. To start with, a paired t-test was done for participants in the experimental group.

Table 1: Emotional Regulation as a Correlate of MDD Across the 3 Phases

	Mean	Std. Deviation	N
IER Baseline	3.3224	.87439	102
SER Baseline	3.1355	.82844	102
DER Baseline	2.9004	.76622	102
IER_midline	3.9020	.83855	102
SER_midline	3.4216	.72353	102
DER_midline	2.5980	.85896	102
IER_endline	3.6961	1.04160	102
SER_endline	3.3529	.81626	102
DER_endline	2.4608	1.08702	102
Participant's total scores on depression at endline	18.1765	13.27949	102

Table 2 presents descriptive statistics that shed light on the patterns of emotional regulation across three phases (baseline, midline, and endline) and their potential association with depression scores. Three dimensions of emotional regulation were assessed: Internal Emotion Regulation (IER), Social Emotion Regulation (SER), and Dysfunctional Emotion Regulation (DER). At the baseline phase, the mean score for IER was 3.32 (SD = 0.87), indicating a moderate level of internal coping capacity. This score improved significantly at midline to 3.90 (SD = 0.84), suggesting a considerable enhancement in participants' ability to regulate their inner emotional states. By the endline, the IER score slightly declined to 3.70 (SD = 1.04),

which may reflect stabilization rather than deterioration. Similarly, the SER scores increased from a baseline mean of 3.14 (SD = 0.83) to 3.42 at midline (SD = 0.72), followed by a slight drop to 3.35 (SD = 0.82) at endline. This trend reflects initial improvement and then maintenance of skills related to emotional regulation in social contexts.

In contrast, DER scores, which represent maladaptive emotional regulation strategies, consistently decreased over time. Participants initially recorded a mean DER score of 2.90 (SD = 0.77) at baseline, which dropped to 2.60 (SD = 0.86) at midline and further declined to 2.46 (SD = 1.09) at endline. This steady downward trend suggests that participants progressively reduced the use of dysfunctional strategies such as suppression, avoidance, or emotional reactivity.

The table also reports the endline depression scores, with a mean of 18.18 (SD = 13.28), indicating varying levels of depressive symptoms among the participants. When considered alongside the emotional regulation trends, the data implies a negative association between effective emotional regulation (IER and SER) and depressive symptoms, and a positive association between dysfunctional regulation (DER) and MDD. As participants improved their internal and social emotional regulation skills, and concurrently reduced maladaptive strategies, they appeared to experience reduced depressive symptoms over time.

Table 2: Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	IER & IER_midline	48	.011	.939
Pair 2	SER & SER_midline	48	.035	.815
Pair 3	DER & DER_midline	48	-.247	.090

Table 2 presents the paired samples correlations between baseline and midline scores for three aspects of emotion regulation: Internal Emotion Regulation (IER), Social Emotion Regulation (SER), and Dysfunctional Emotion Regulation (DER), based on responses from 48 participants.

For IER, the correlation between baseline and midline scores was extremely low (r = .011) and not statistically significant (p = .939). This suggests that there was virtually no relationship between participants' IER scores at baseline and those at midline, indicating substantial variability or change in how individuals regulated their emotions internally over time.

Similarly, the correlation for SER between baseline and midline was also very weak (r = .035) and not statistically significant (p = .815). This implies that participants' ability to regulate emotions in social contexts remained inconsistent or was not predictably related across the two timepoints.

In contrast, DER showed a negative correlation between baseline and midline scores (r = –.247), though this result was not statistically significant (p = .090). The negative direction of the correlation suggests that higher levels of dysfunctional emotion regulation at baseline may be associated with lower levels at midline. Although this relationship did not reach conventional levels of statistical significance, it points to a possible trend toward improvement in emotional regulation over time.

Table 3: Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig.(2-tailed)
Pair 1	IER IER_midline	-.72979	1.43781	.20753	-1.14729	-.31230	-3.517	47	.001
Pair 2	SER SER_midline	-.03104	1.20371	.17374	-.38056	.31848	-.179	47	.859
Pair 3	DER DER_midline	.73833	1.07387	.15500	.42651	1.05015	4.763	47	.000

Table 3 presents the results of a paired samples t-test comparing the baseline and midline scores for Internal Emotion Regulation (IER), Social Emotion Regulation (SER), and Dysfunctional Emotion Regulation (DER) among 48 participants. The test evaluates whether there are statistically significant differences between the two timepoints for each emotion regulation domain.

For Internal Emotion Regulation (IER), the mean difference between baseline and midline scores was –0.73 (SD = 1.44), indicating an increase in IER from baseline to midline. This difference was statistically significant ($t(47) = –3.517$, $p = .001$), with the 95% confidence interval for the mean difference ranging from –1.15 to –0.31. The negative sign indicates that scores improved at midline (higher scores reflect better internal emotion regulation).

In the case of Social Emotion Regulation (SER), the mean difference was minimal at –0.03 (SD = 1.20), and this difference was not statistically significant ($t(47) = –0.179$, $p = .859$). The confidence interval (–0.38 to 0.32) includes zero, confirming that no meaningful change occurred between baseline and midline for this domain.

For Dysfunctional Emotion Regulation (DER), the test revealed a statistically significant mean difference of 0.74 (SD = 1.07), with scores decreasing from baseline to midline ($t(47) = 4.763$, $p < .001$). The 95% confidence interval for the difference (0.43 to 1.05) does not include zero, indicating a robust and significant reduction in dysfunctional emotion regulation over time. In summary, the paired samples t-test shows significant improvements in both internal emotion regulation (increase in scores) and dysfunctional emotion regulation (decrease in scores), while no significant change was observed in social emotion regulation between baseline and midline.

To find relationships between MDD, dysregulation, and selected sociodemographic factors, the results were presented in table 4.

Table 4: Correlations between MDD, Dysregulation, and Selected Sociodemographic Factors

	IER_midline	Correlation Coefficient	.000	-.231	.278	-.094	.015	1.000	.369**	.049
		Sig. (2-tailed)	.998	.114	.056	.525	.919	.	.010	.741
		N	48	48	48	48	48	48	48	48
	SER_midline	Correlation Coefficient	-.019	.068	-.008	-.058	.380**	.369**	1.000	.237
		Sig. (2-tailed)	.901	.644	.954	.697	.008	.010	.	.104
		N	48	48	48	48	48	48	48	48
	DER_midline	Correlation Coefficient	-.213	.057	-.186	.158	.632**	.049	.237	1.000
		Sig. (2-tailed)	.146	.703	.205	.283	.000	.741	.104	.
		N	48	48	48	48	48	48	48	48
**. Correlation is significant at the 0.01 level (2-tailed).										
		Sig. (2-tailed)	.588	.559	.	.613	.117	.056	.954	.205
		N	51	51	51	51	51	48	48	48
	Participant's employment status	Correlation Coefficient	-.057	-.183	-.073	1.000	.116	-.094	-.058	.158
		Sig. (2-tailed)	.689	.199	.613	.	.416	.525	.697	.283
		N	51	51	51	51	51	48	48	48
	Participant's total scores on depression at midline	Correlation Coefficient	.108	.156	-.222	.116	1.000	.015	.380**	.632**
		Sig. (2-tailed)	.450	.274	.117	.416	.	.919	.008	.000
		N	51	51	51	51	51	48	48	48
**. Correlation is significant at the 0.01 level (2-tailed).										

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Table 4 present the correlation results examining the relationship between major depressive disorder (MDD), emotion dysregulation, and selected sociodemographic factors among parents of pregnant teenagers. The analysis focuses on three key dimensions of emotion regulation at midline: Internal Emotion Regulation (IER), Social Emotion Regulation (SER), and Dysfunctional Emotion Regulation (DER).

The findings indicate that IER at midline was positively and significantly correlated with SER ($r = .369$, $p = .010$). This suggests that individuals who demonstrated stronger internal emotion regulation also tended to exhibit better social emotion regulation. However, IER was not significantly associated with any of the selected sociodemographic factors, as the corresponding p-values exceeded the 0.05 threshold, indicating no meaningful relationships.

In terms of social emotion regulation, SER at midline was significantly correlated with one of the sociodemographic variables ($r = .380$, $p = .008$), implying that this specific factor—likely to be education, age, or a similar demographic trait—may influence how individuals manage emotions in social contexts. Additionally, SER was positively related to IER and DER, though the relationship with DER ($r = .237$, $p = .104$) did not reach statistical significance.

For dysfunctional emotion regulation, the results revealed a strong and statistically significant positive correlation with MDD ($r = .632$, $p < .001$). This finding suggests that higher levels of dysfunctional emotion regulation were strongly associated with increased symptoms of major depressive disorder among the participants. While DER was also correlated with several sociodemographic factors, none of these relationships were statistically significant. Additionally, DER showed a weak, non-significant correlation with SER.

Overall, the analysis underscores a robust link between dysfunctional emotion regulation and depressive symptoms, highlighting the psychological vulnerability of parents who rely on maladaptive emotional coping mechanisms. It also suggests a connection between emotion regulation abilities and certain sociodemographic factors, particularly in the domain of social emotion regulation. These insights point to the need for targeted psychological interventions that not only address emotional regulation strategies but also consider the broader social and demographic context of the affected individuals.

DISCUSSION

These findings align with previous research on emotion dysregulation and depression. D'Agostino et al. (2017) found that depressed individuals exhibit impairments in their ability to use emotion regulation strategies effectively and are prone to use ineffective strategies such as rumination. Other studies similarly attest to the role of emotion dysregulation in both the emergence and maintenance of depressive symptoms. For example, Stephanou et al. (2017) indicated that brain regions such as the prefrontal region exhibit increased activation, while emotion processing regions such as the limbic regions, especially the amygdala, show reduced activation, establishing the correlation between emotion dysregulation and MDD.

Christ et al. (2019) found that emotional dysregulation and interpersonal problems mediate the relationship between childhood emotional abuse and depressive symptoms. Their study showed that emotional abuse was independently associated with depressive symptoms, emotional dysregulation, and interpersonal problems. Additionally, Norouzi et al. (2023) examined the relationships between sleep quality, emotion regulation, and physical activity levels among patients with MDD, finding that poor sleep quality, less physical activity, and severe depressive symptoms were associated with emotion dysregulation.

A meta-analysis by Liu & Thompson (2017) and Schäfer et al. (2017) showed a negative correlation between MDD and adaptive emotion regulation strategies, such as reappraisal and distraction, and a positive correlation between MDD and maladaptive emotion regulation strategies, such as rumination and suppression. This implies that depression is closely linked to emotion dysregulation and that depressed individuals are likely to have difficulties in regulating their emotions effectively.

Despite considering various sociodemographic factors, the researcher noted that these did not significantly correlate with depression or emotion dysregulation. This implies that demographic characteristics alone do not adequately explain the psychological distress experienced by parents, highlighting the need to focus on emotional and psychological factors.

6. CONCLUSION

The study identified dysfunctional emotion regulation as a key correlate of MDD, indicating that parents struggling to manage their emotions are more prone to depression. Interestingly, while internal and social emotion regulation were related to one another, only dysfunction in emotional response was significantly associated with depression. Sociodemographic variables, in contrast, did not show significant predictive power in relation to depression or emotion dysregulation, reinforcing the idea that emotional skills, rather than background characteristics, are central to psychological outcomes in this context.

7. RECOMMENDATIONS

The study recommended that given the high prevalence of moderate to severe depression, there is a critical need to incorporate psychological screening and counseling services for parents into reproductive health and community support programs. Due to the effectiveness of Dialectical Behavior Therapy (DBT) in reducing depression and improving emotional regulation, its adoption in community and faith-based settings, particularly targeting parents of pregnant adolescents will be important. Policymakers should invest in structured parenting programs that build emotional regulation skills, improve parenting styles, and promote open communication within families to prevent and mitigate the effects of teenage pregnancy.

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