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Relationships between parental involvement, socioeconomic status and literacy skills, on graduation rates, juvenile incarceration rates, and psychiatric hospitalization rates, for Mississippi youth

Karla Weir

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Relationships between parental involvement, socioeconomic status and literacy skills, on
graduation rates, juvenile incarceration rates, and psychiatric hospitalization rates, for
Mississippi youth

By

Karla Weir

A Dissertation
Submitted to the Faculty of
Mississippi State University
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy
in School Counseling
in the Department of Counseling, Educational Psychology and Foundations

Mississippi State, Mississippi

April 2020

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Karla Weir

2020

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The purpose of this study was to examine the relationship between two sets of variables with the first including parental involvement, literacy skills, and socio-economic status and the second including graduation rates, incarceration rates and psychiatric hospitalization rates. The study methodology included three separate multiple regression analyses. Data were collected from archival sources through the Mississippi Department of Education (MDE), Mississippi Department of Mental Health, and the Mississippi Department of Human Services Youth Divisions. The results of this study indicated that socio-economic status has a statistically significant relationship with high school graduation rates and youth psychiatric hospitalization rates in the State of Mississippi.

DEDICATION

This dissertation is dedicated to:

Sam T. Weir Jr., Andrew T. Weir, Alexandria E. Weir, Kristy Graham,

Bobby Graham, and Bobby Lummus, my beloved family.

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I would like to first acknowledge that I could not have endured this endeavor without my faith in God. I would like to thank all of my committee members, Dr. Katherine Dooley, Dr., Cheryl Justice, Dr. Kimberly Hall, Dr. Deborah Jackson, and Dr. Laith Mazahreh. Each of you had a specific and significant role in my educational process, and for that I am truly grateful. To Dr. Katherine Dooley, I want to thank you for your support, encouragement, and all that you have done for me within my journey. You taught my first doctoral class, supervision, and you have been consistently an intricate part of my development as a counselor. To Dr. Kimberly Hall, thank you for coming forward as a committee member when I needed to add someone. I genuinely appreciate your support of my educational goals.

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CHAPTER I

INTRODUCTION

Today's youth are the leaders of tomorrow; therefore, it is imperative that they maximize their opportunities for success (Reese, 2011). It is essential for professionals working with youth to become cognizant of the risk factors that exist for adolescents (Fitzpatrick, Archambault, Janosz, & Pagani, 2015). Students in Mississippi, who have poor literacy skills, who are socio-economically disadvantaged, or who have poor parental involvement, are more likely to struggle in school than their same age peers (Coleman & McNeese, 2009). These disadvantages increase their risk of dropping out of high school, experiencing juvenile incarceration or being institutionalized in psychiatric hospitals due to the development of mental health disorders (Robertson, Gardner, Haynes, & Gresham, 2011). Behaviorally, identifying areas of concern by defining those factors influencing high school dropping out, juvenile incarceration, and psychiatric hospitalization of youth provides opportunities to facilitate change in behaviors that influence multiple facets of these children's lives. Parent and student support for academics, providing for basic socio-economic needs, and participating in opportunities for involvement of parents with student education, promotes positive behavioral changes in the adolescent (El Nokali, Bachman & Votruba-Drzal, 2010). There are numerous concerns for adolescents, which can result in the potential for dropping out of school, juvenile incarceration, and the development of mental health disorders, resulting in psychiatric incarceration. Interventions that target the factors identified to increase these negative outcomes have the potential to inform supportive

interventions that counselors may use with at-risk adolescents (Algozzine, Wang, & Violette, 2011). Currently, there is little research evidence to support the funding and implementation for appropriate intervention programs for at-risk youth to prevent future offenses (Cohen & Piquero, 2009).

Early intervention and prevention programs are services, which counselors may provide in multiple settings to meet the needs of at-risk adolescents (Wyman et al., 2010). A lack of education on the effectiveness of counseling as an intervention with at-risk populations may be the cause for the underuse of helpful interventions. Restriction of access to a counselor, due to a limited number of counselors in agencies and schools, may also limit the use of counseling as an intervention for at-risk adolescents (Green et al., 2013). Additional funding to create opportunities for program development and implementation provides much needed alternatives to incarceration, institutionalization through psychiatric hospitalization, and residential behavioral training programs (Henggeler & Sheidow, 2012). A study by Gagnon and Mattingly (2016), reported that the median student to counselor ratio is 411:1, rather than the Association of School Counselor's recommended 250:1 school counselor to student ratio. When emotional issues are left untreated, adolescents are more likely to develop behaviors resulting in psychiatric institutionalization through long-term hospital stays or by juvenile incarceration in the criminal justice system (Havens, Ford, Grasso, & Marr, 2012). Coping with intense emotional concerns also increases school truancy and disrupts academic success (Hunt & Hopko, 2009). Academic failure becomes a vicious cycle making the youth likely for the development of at-risk behaviors, possible poor academic progress, exposure to juvenile delinquency, and untreated mental health issues (Darney, Reinke, Herman, Stormont, & Ialongo, 2013).

Adolescents need effective counseling interventions once they have been identified as at-risk (Wilson & Hodge, 2013). The development of better coping skills for at-risk adolescents to manage routine tasks may increase the potential for learning by allowing them to focus on academics and prevent exacerbation of their problems (Downey, Johnston, Hansen, Birney, & Stough, 2010). Learning to manage stress, anger, and negative impulses are crucial to academic and social success for these adolescents (Denham & Brown, 2010). Becoming self-aware and learning to identify one's strengths and weaknesses is important to everyone, but it is exponentially important to adolescents who are at-risk (Coholic, 2011). Researchers recently concluded that efforts by schools to promote social-emotional learning programs were critical for school and life success (Domitrovich, Durlak, Staley, & Weissburg, 2017). Processing feelings and emotions with an empathetic counselor is beneficial to adolescents who have to learn to appropriately deal with their emotions (Kliewer & Lepore, 2015). Recent studies have shown that social and emotional abilities such as, self-regulation and maintaining relationships with adults, in conjunction with cognitive abilities, contribute to the educational success, as well as overall economic outcomes, for students (Jones, Greenberg, & Crowley, 2015). Counseling, interventions, and therapeutic programs provide an outlet for coping with problems, developing awareness and engaging in self-regulation (Lemberger & Clemens, 2012). The concerns for adolescents, specifically those of color, have increased, which can result in the potential for dropping out of school, juvenile incarceration, and the development of mental health disorders (Hall & Karanxha, 2012).

This current study is expected to be highly beneficial to those who provide counseling services, administrators of agencies who provide counseling services, and to clients and their families. Counseling professionals may use this research to validate the need for their programs

and positions. Additionally, professionals may use the data to make decisions about collaboration with other providers to benefit clients, whereas administrators may use this information to validate the need for additional counseling programs or intervention services. In programs fully staffed with counselors, administrators may use this information to structure the use of current employees to better meet students' counseling needs. Clients and families may also use this research to advocate for the needs for counseling services and to seek approval for these services to be provided in places in which there is currently no access, such as rural areas with limited numbers of counseling providers.

Adolescent lives can be changed in a positive manner by fewer incidents of dropping out of high school, fewer admissions to psychiatric hospitals for mental illness, and fewer incidents of juvenile incarceration (Pager, Bonikowski, & Western, 2009). Young clients would not experience the trauma of being confined in detention or spending time away from loved ones in inpatient psychiatric hospitalizations or residential facilities. Avoiding these incarcerations and psychiatric hospitalizations would indicate that behavior was manageable through outpatient, community and in-school services (Löfholm, Olsson, Sundell, & Hansson, 2009). With manageable behavior, adolescents have the opportunity to advance academically and ultimately be productive citizens with a completed education (Dishion et al., 2014). The positive impact for these adolescents could last a lifetime and influence generational outcomes as well. Ultimately, this data may influence the number of adolescents who are incarcerated or institutionalized for emotional disorders. Through quality "front-end" services, adolescent behaviors may improve resulting in not only less time but also less money being spent for psychiatric hospitalization or incarceration (Nelson, Jolivette, Leone, & Mathur, 2010). Additionally, adolescents may benefit from a higher quality of life if they acquire an education needed to sustain employment. These

adolescents may spend more time in their communities rather than institutions. Higher rates of graduation increase the likelihood of employment, thus developing these youth into tax paying citizens. Less referral to inpatient facilities results in less money spent through government and private health insurance providers (Hodgkin, Horgan, Garnick, & Merrick, 2009). This would require less need for inpatient care, freeing up the beds that the hospitals have for more seriously ill patients. Those needing less intense treatment can be managed on an outpatient basis. Housing fewer adolescent offenders saves money in the criminal justice system. In addition to alleviating the stress from the victims of adolescent crimes, preventing them from occurring would eliminate the need to pay to house them while incarcerated. Funding that is now allocated for incarceration and psychiatric hospitalization could be used for adolescent prevention and outpatient programs.

Risk Factors

Generally, adolescents must have the support of parents or caregivers to be successful in their academic pursuits (Woolley, Kol, & Bowen, 2009). In most cases, students are in school for approximately seven to eight hours per day with the remainder of their time with caregivers in some type of a family environment. Parental support exerts a positive influence on student success (LaRocque, Kleiman, & Darling, 2011). Hill and Tyson (2009) defined parental involvement as “parent’s interactions with schools and with their children to promote academic success” (pg.741). This definition is echoed by LaRocque et al. (2011) who stated, “family involvement can be generally defined as the parents or caregiver’s investment in the education of their children” (pg.116). The positive interaction of parents and caregivers with both the student and the school, encourage personal and academic success of the student. Parental involvement may encompass helping with homework, attending school activities such as parent-teacher

meetings, or in school presentations, or attendance at plays, sporting events, competitions and ceremonies (Wilder, 2014). Monitoring and measuring the level of parental involvement with the school may be more difficult for those academic and supportive activities taking place at home, but the school may request parental signed confirmation of viewing homework or grade reports. According to the Mississippi Department of Education's (MDE's) website information on Title I and parental involvement (n.d.), when parents and caregivers are involved, students receive higher grades, higher rates of graduation and better student outcomes. To further validate the positive impact of parental involvement, researchers Wang and Sheikh-Khalil (2014) found that parental involvement improves the academic and emotional functioning of adolescents.

Literacy is an essential skill for success in contemporary life according to the World Literacy Foundation (James, 2017). To be literate students must be able to read with facility and follow directions in the written word (Keefe & Copeland, 2011). Reading skills include, word comprehension, reading comprehension and spelling (Korhonen, Linnanmaki, & Anuio, 2014). Schools promote reading as a core skill of education, as well as, reader development (Shenton, 2011). For a child to be successful in specific content areas in school, reading of textbooks and other written materials must occur (Lee & Spratley, 2010). Unfortunately, research states that approximately six million adolescents read below their grade level, whereas 5-10% need intensive intervention for reading success (Wise, 2009). Limited research is available to link the relationships that various aspects of education as well as life experiences, such as parental involvement and motivational factors, have on individual literacy skills (McGeown, Duncan, Griffiths, & Stothard, 2015).

When children go to school, they are expected to learn to read. Academic concerns are raised when there is difficulty in literacy skills as it could result in failure in the student's

educational process (Fuchs, Fuchs, & Compton 2010). A lack of academic progress triggers additional social concerns and consequences such as inability to earn as much as peers or counterparts or even the development of certain mental health issues (Freeman & Simenson, 2015). Because reading difficulty presents in different ways, there is a risk of misinterpretation as ADHD presenting through difficulty reading and delaying the start of appropriate intervention (Deans, O’Laughlin, Brubaker, Gay & Krug, 2010).

The American Psychological Association (2019) indicated that increasing evidence supports the link between lower SES and negative psychological health outcomes, whereas more positive psychological outcomes such as optimism, self-esteem and perceived control have been linked to higher levels of SES for youth, socio-economic status of the family and may have an impact on collective student success. Socio-economic status generally includes a summary score comprised by income, occupational status, and educational level (Poleshuck & Green, 2008). Adolescents from families with higher economic resources and social access are likely to have a different lived experience than those who are less privileged (Santiago, Wadsworth, & Stump, 2011). The opportunities provided through exposure to diverse places and cultures, art, literature, and social interactions, enrich the learning process by providing enhanced understanding of social and behavioral functions for those adolescents who have access. Those youth without access to diverse educational and life experiences are less likely to be taught in school the things that others may learn through experience (Pearce, 2006). Adolescents who live in low socio-economic conditions are more likely to have concerns other than education and academic success leading to social emotional concerns that increase the likelihood of juvenile delinquency or mental health concerns (Barnett et al., 2015). Multiple relationships and pathways connecting socio-economic status to youth outcomes have been identified in research

(Devenish, Hooley, & Mellor, 2017). Socio-economic indicators may show residual effects to student academic and career success, and contribution or prevention of institutionalization or incarceration.

Outcomes

According to the National Center for Educational Statistics (2019), the U.S. had a national high school graduation rate of 84% in 2016, but Mississippi has a lower rate of high school graduation at 82% for the 2015-2016 school year. Although Mississippi is not the lowest in the country, the state falls below the national average. The career opportunities of those who do not receive a high school diploma are limited as is their access to gainful employment options (Rath, Rock, & Lafierre, 2011). Mississippi, a rural state, is formerly known for agriculture and agricultural businesses (Brunini, 2011). Although farm labor does not necessarily require a high school diploma, fewer and fewer farm labor jobs are available to the uneducated as more education and internship experiences are required (Orozco et al., 2018). Although, farming does not necessarily require a college diploma, there are some corporate aspects of farming which can greatly benefit from higher education. Although everyone in the U.S. has access to a public education essential for career and personal development, but not all Americans value it (Trampush, Miller, Newcorn, & Halperin, 2009). With an often, under-funded system and decreased focus on education in Mississippi, graduation rates suffer (Partelow, Shapiro, McDaniels, & Brown, 2018). Programs are in place to encourage and promote education, but Mississippians often fall behind in areas such as attendance where during the 2013-2014 academic year 15% of the students were chronically absent (MacNaughton, Eitland, Kloog, Schwartz, & Allen, 2017). According to Stark and Noel (2015) Mississippi graduation rates for 2012 were 5% below the national average of 80%. Learning the contributing factors leading to

failure to graduate could prove beneficial to Mississippi adolescents and their families (DePaoli, Balfanz, Atwell, & Bridgeland, 2018).

According to the Annie E. Casey Foundation (2018), more than 200,000 youth per year are admitted to detention facilities in the U.S. for stays of an average of 27 days. When incarcerated, the in-detention youth is separated from family, support systems, academics social interactions, negatively influencing the youth's development (Barnett et al., 2015). Multiple incidence of incarceration are associated with higher rates of mental illness as an adult (Barnett et al., 2017). In addition, the concern of referrals made for services to prevent re-offense, which are not being utilized by more than 60% of the adolescents released from incarceration (White et al., 2019). When adolescents are released from detention, support services are needed; however, prevention beginning with identifying causes of these issues (Barnert et al., 2016).

Institutionalization of adolescents with mental illness refers to placement in a residential facility or hospital placement for treatment, recovery, and rehabilitation (Priester et al., 2016). Residential hospital facilities do not have a punitive purpose, as do youth detention centers, these facilities focus on behavioral and environmental change and stabilization much like detention facilities purport to do (Goldstrom et al., 2000). In a hospital or residential setting, there are many restrictive rules and regulations that include locking sleeping rooms doors, which was reported in research as policy in 45% of residential treatment facilities (Listenbee, 2014) Residential treatment facilities have restrictive visiting hours, sleep and wake hours, and mealtimes. Adolescents who are in these facilities are in lock down facilities that do not allow them to leave, even with parents, unless they leave against medical advice (Haglund and von Essen, 2005). Separation from normal routines, family, support systems and school environment have a profound influence on the stability and well-being of these youth (Baez et al., 2018).

According to the U.S. Department of Health and Human Services statistics from the year 2013 (2019), 21% of men and 39% of women reported depression or depressive symptoms when in these facilities. Left untreated, this could lead to psychiatric hospitalization. When adolescents are placed in institutions for treatment, the effects are long lasting and pervasive. Prevention is also ideal, which must begin with identification of causes and interventions.

Statement of Problem

Adolescents are faced with developmental, social, emotional concerns related to circumstances beyond their control, such as a lack of family resources and personal opportunities, which can ultimately result in the potential for dropping out of high school, juvenile incarceration, and the development of mental health disorders. Any one of the potential negative outcomes discussed in this research may result in detrimental long-term effects for adolescents. In the midst of daily life for students and parents, alongside the demands of work for educators, causal factors for becoming at-risk may go unnoticed. Through identification of the factors affecting these concerns, necessary data to support intervention will be provided. There currently is not enough empirical evidence to support the funding and implementation for proper intervention programs for at-risk youth.

Purpose of Study

The purpose of this study is to examine the relationship between a set of independent variables including parental involvement, literacy skills, and socio-economic status and the three independent variables including graduation rates, juvenile incarceration rates and psychiatric hospitalization rates. Parental involvement, literacy skills and socio-economic status were used to determine the effects if any on whether adolescents drop out of high school, were incarcerated

or were hospitalized in psychiatric facilities for mental health treatment. The research was intended to add to existing research that identified areas of needed intervention and prevention. Furthermore, the study was designed to provide support for validation and fiscal procurement for such intervention and prevention, programs in schools and communities. The current research explored relationships between the independent variables parental involvement, socio-economic status, and literacy skills on the dependent variables graduation rates, juvenile incarceration rates, and psychiatric hospitalization rates.

Research Questions

1. What is the relationship, if any, between the dependent variable of graduation rates and the independent variables of parental involvement, socio-economic status, and literacy skills?
2. What is the relationship, if any, between the dependent variable of juvenile incarceration rates and the independent variables of parental involvement, socio-economic status, and literacy skills?
3. What is the relationship, if any, between the dependent variable of psychiatric hospitalization rates and the independent variables of parental involvement, socio-economic status, and literacy skills?

Theoretical Framework

Intervention is required for behaviors that result in issues that negatively influence adolescent development or academic and social/emotional progress (Kieling et al., 2011). Many diverse factors influence the success or failure of an adolescent in their personal or academic lives (Saklofske, Austin, Mastoras, Beaton, & Osborne, 2012). Researchers found that literacy skills, socio-economic status and positive parental involvement with the adolescent positively

influenced outcomes for adolescents (Conger, Conger, & Martin 2010). When problems with adolescent behaviors arise, a therapeutic approach rooted in Cognitive Behavioral Theory is beneficial to avoid negative and increase positive outcomes (Shelton, Kesten, Zhang, & Trestman, 2011). Ideally, through the use of using Cognitive Behavioral Therapy (CBT) or other therapeutic interventions, there is a possibility of avoiding the problems of adolescents dropping out of high school, being incarcerated, or experiencing psychiatric institutionalization to address mental health concerns.

CBT may be delivered using a variety of approaches ranging from Ellis' Rational Emotive Behavior Therapy (REBT) to Beck's CBT (Rachman, 2015). Recently, a form of CBT called Dialectical Behavioral Therapy (DBT) was developed initially for adults but was found to be effective with behaviorally disordered adolescents (MacPhearson, Cheavans & Fristad, 2013).

CBT approaches take into consideration what occurs prior to the behavior, including thoughts that lead to the action or the behavior, resulting in specific consequences. Identifying these thoughts influencing the action of behavior provides an opportunity to introduce interventions (Casey, 2015). Redirecting thoughts and thus resulting reactions has been evidenced in research to affect outcomes initiated by behaviors (Telzen, Ichien, & Qu, 2015). CBT has been found by research to be one of the most efficacious approaches to modify the behavior of adolescents with emotional and behavioral disorders (Bosmans, 2016). Finding the most appropriate theoretical approach for intervention with at-risk adolescents influences all of the areas of their lives (Liddle, Rowe, Dakof, Henderson, & Greenbaum, 2009). Without intervention adolescents with limited reading skills, lower socio-economic status, or lack of parental involvement, are more likely to struggle in school. School problems may lead to dropping out of high school, incarceration in youth detention facilities, or institutionalization for

development mental health disorders (Murray, Loeber & Pardini, 2012). Research indicated that while there have been some studies on at-risk youth, the efforts were on single issues rather than multiple issue or issues in combination, and the specific preventions were to address single issues and not for at-risk youth with concerns in both emotional and academic areas (Freeman & Simonson 2014). From a CBT perspective and using DBT, identifying areas of concern with the factors influencing incarceration, and institutionalization of youth, can provide opportunities to change behaviors impacting multiple facets of life (Shelton et al., 2011). Interventions that employ CBT to promote parent and student support for academics, provided for basic socio-economic needs, opportunities and encourage involvement of parents with student education will likely promote all of these changes in adolescents (Shirk, Kaplinski, & Gudmundson, 2009).

Study Limitations

This research attempted to validate the contributing factors to high school dropout rates, incarcerations of youth, and psychiatric hospitalization for mentally ill youth in Mississippi, to provide empirical evidence for intervention programs. Difficulties may arise with generalization with data from Mississippi youth; however, the issues of diversity and comparisons among groups will be addressed. Additionally, the population is Mississippi adolescents, but the data are from reporting of public and accredited schools and facilities. Adolescent lives could potentially be positively impacted by the decrease in dropout rates, incarcerations, and institutionalizations (Pager et al., 2009). The benefits reach beyond the valuable assistance provided to the youth, families and community, and extend to financial benefits to decrease incidence of hospital stays, youth detention facility stays, and extended stays in school due to failure to progress academically (Nelson et al., 2010).

Although another limitation, the study is limited to Mississippi youth. However, it is possible to generalize to other states or geographical areas with similar demographics. The academic data used for this study had a large sample of Mississippi youth from which the aggregate data were derived; however, it will not include those students who are attending private schools, independent schools, BIE Schools or home-schooled. Although the data are the most current available that each database has in common, it is not from the current year. Additionally, the data were aggregated data. The data did not represent individuals, but it represented groups of individuals from Mississippi public schools, Mississippi public mental health facilities and Mississippi public detention centers.

The data found in the databases are from different time frames. For example, one database may report statistics from the calendar year, but another reports fiscal year data. Additionally, some of the data addressed all aspects of the research questions, whereas others address only a specific portion of the questions. This indicates that some data has to be narrowed or expanded accordingly. Also, the aggregate data will be used to predict group outcomes, but the implications will be intended to assist individuals and groups. Explaining the individual outcomes versus the group outcomes presents a challenge.

Summary

Adolescence is a critical time in life, and specific circumstances may contribute to an individual becoming at-risk. Therefore, identification of the characteristics that contribute to these risks is beneficial to the adolescent, their families, and the community in general (Saklofske et al., 2012). Three specific characteristics have been identified as potentially contributing to at-risk outcomes in adolescents. Parental involvement, socio-economic status, and literacy skills (independent variables) are expected to have a strong relationship with the

outcomes (dependent variables) high school graduation rates, juvenile incarceration rates, and psychiatric hospitalization rates of adolescents. Additional statistical evidence is expected to definitively determine the significance of the relationships between variables. Parental involvement is important at all levels of academia for children, but it is essential in the adolescent years. Parents are more likely to address the needs of younger children, but parents may not understand the needs of adolescents as they mature and become independent (Wang, & Sheikh-Khalil, 2014). As these adolescents develop, struggling in school may be attributed to other concerns; however, difficulty reading is likely an issue the adolescent is masking by acting out behavior (Deans et al., 2010.) In addition to reading problems, the socio-economic status of adolescents limits the opportunities for student growth and the availability of the parent to become involved due to difficult parent and child interactions (Deveinish et al., 2017). Furthermore, dropping out of school, becoming incarcerated as a juvenile offender, and institutionalization or psychiatric hospitalization of youth all have an impact on the adolescents and the opportunities for future success (Shelton et al., 2011). It is important to determine the contributing factors for negative outcomes for youth (Kieling et al., 2011).

Operational Definitions

The following operational definitions were included for the factors and outcomes of parental involvement, socio-economic status, literacy skills or comprehension, dropping out, graduation rate, incarceration, and institutionalization, as well as other terms related to the factors and outcomes. In order to provide clear and concise communication with those reading the study, the following operational definitions are provided:

- *At-Risk* is termed as denoting a set of cause – effect dynamics that lead to an individual child or adolescent to be in danger of future negative outcomes, such as substance abuse, mental

illness, dropping out of school, or incarceration (McWhirter, McWhirter, McWhirter, & McWhirter, 2012).

- *Dropping out* can be defined as quitting high school before the completion of a diploma (Burrus & Roberts, 2012).
 - *Graduation Rate* is defined as the number of students who graduate in 4 years with a regular high school diploma divided by the number of students who form the adjusted cohort for that graduating class (n.d.b.)
 - *Incarceration* - legally imposed deprivation of personal liberty, typically in a facility specially designed for the purpose (Travis, Western, & Redburn, 2014)
 - *Institutionalization* - defined by Dorland's Medical Dictionary (2007) as commitment of a patient to a health care facility for treatment, often psychiatric.
 - *Reading Comprehension*- is defined as a complex process of understanding written text, interpreting meaning and using meaning in the appropriate type of text (Paris, Hamilton, Israel, & Duffy 2009).
 - *Parental Involvement* has been defined as “parents’ interactions with schools and with their children to promote academic success” (Hill & Tyson, 2009).
 - *Risk-factors* - Student characteristics associated with a higher probability of dropping out, often called student “risk factors,” are both numerous and oft-cited as dropout “predictors” (Tyler & Lofstrom, 2009).
 - *Socio-Economic Status* - generally includes a summary score composed of income, occupational status, and educational level (Poleshuck & Green, 2008).
- Socio-economically disadvantaged* – is often determined by lower education and income (Poleshuck & Green, 2008)

CHAPTER II

LITERATURE REVIEW

Literature supports the potential for relationships between identified the variables of parental involvement, literacy skills and socio-economic status and the outcome variables of high school graduation or dropping-out, juvenile incarceration, and psychiatric hospitalization for mental illness (Robertson et al., 2011). There may be links between multiple outcomes for at-risk individuals, which indicates a need for research that investigates what related factors to be found. This may be beneficial in avoiding compounded negative outcomes.

According to research published by the National Bureau of Economic Research, which involved statistics from 1996-2012, there was previously an impact of incarceration on high school graduation rates, but since changes occurring in the systems there is little or no significant influence (Eren & Mocan, 2017). Additional research by Robison, Jaggars, Rhodes, Blackmon and Church (2017) found that school intervention decreased negative behaviors resulting in positive outcomes culminating in high school graduation. Furthermore, research by Wallace (2016) found parental involvement to be influential in high school graduation rates. These results support the need to determine whether these variables positively influence high school graduation rates. An education consortium from Chicago found a 22% increase in high school graduation rates for the past 16 years, which does not factor in information regarding youth mental health institutionalizations, juvenile incarcerations or adjustments for change in economic development (Allensworth, Healey, Gwynne, & Crespin, 2016). The researchers from the

Chicago consortium noted the cause of the increase in high school graduation rates were partially due to increased support and possibly due to change in coding of transfers (Allensworth et al., 2016). The previously mentioned research, while positive, indicates a need to determine predictors of high school graduation rates, youth psychiatric hospitalization rates, and juvenile incarceration rates.

Effects of Poverty

Poverty influences multiple aspects of life including higher education, social connection, emotional well-being, and decision-making. Spears (2011) found that poverty increases the risk of impulsive behaviors. Furthermore, recent research found that poverty negatively affects academic performance of school aged children in economic deprivation when compared to their economically advantaged peers (Duncan, Magnuson & Votruba-Drzal, 2017). Unfortunately, some students encounter academic failures and are not successful at completing high school. Academic performance can be compromised through involvement illegal activities resulting in incarceration or in mental health related acute or residential hospital stays (Sanger, Maag, & Miner, 2016). Students, living in poverty rarely have the resources to seek services from legal aid or mental health providers if they need assistance (Abel & Vignola, 2010). A lack of services could result in gaps in academic instruction in school if the adolescent is placed in a juvenile detention facility or psychiatric residential treatment facility. At this point, the adolescent's socio-economic status creates a plethora of concerns involving both academics and limited access to the necessary intervention services of mental health treatment or legal assistance. Studies have shown that low socio-economic status predisposes students to be more often absent from school, and more likely to drop out of school due to poor academic performance (Spencer, 2009). Additional research is needed to determine the influence of low socio-economic status on

high school students. Chronic exposure to poverty may lead to mental health disorders (Dashiff, DiMicco, Myers, & Sheppard, 2009). A better understanding of how poverty affects high school students provides insight for policy makers to determine how to allocate funds, and which programs are needed to decrease disparities (Fiscella & Kitzman, 2009).

Mental Health Concerns

Adolescents may struggle for various reasons in high school, and mental health concerns may cause or exacerbate these issues. It is an important goal for schools to improve the academic success and mental health of adolescents, because stable mental health is an integral part of the academic process (Wang, & Sheikh-Khalil, 2014). Chronic mental health disorders have been found to increase the risk of adolescents dropping out of high school (Mojtabai et al., 2015). Many contributing factors influence how mental health issues influence school performance, including long hospital stays or legal problems resulting in juvenile detention. Youth who are incarcerated are more likely to be depressed than those who are not incarcerated, and the severity of the crime increases the severity of the depression (Ng et al., 2011). When school services are interrupted by psychiatric institutionalizations or hospitalizations or by stays in detention facilities, the academic process and educational progress is likely to suffer. Deficits in academics can grow and become difficult to overcome and result in mental health issues such as depression, anxiety and internalizing negative emotions (Gustafsson et al., 2010). Swerd and West (2012) found that students retained in school achieve less academically, were less likely to complete high school, and had more emotional concerns than peers who were not retained in school.

Parental Involvement

Parental involvement may prove to be a key to unlocking the success for many students who would otherwise struggle in their academic pursuits. Parents who value education are more likely to instill these values in their children. When a parent becomes involved in a child's educational process, there is a level of accountability placed on the child by the parent that is greater than what may be achieved in the school setting. All students need support and involvement of their family, but some are more at-risk without critical parental support and concern. In a longitudinal study with disadvantaged and lower socio-economic youth, research has found parental involvement at the school and home levels to be very beneficial in high school students (Benner, Boyle, & Saddler, 2016). Parents of disadvantaged student are less likely to be involved if they are working multiple job or coping poorly with the stress of daily survival. Although support is always needed, there are crucial times in a student's education that may prove especially important for support. MacIver, Epstein, Sheldon, and Fonseca (2015) the ninth-grade year is "the make it or break it year" (pg. 27), and it is affected by family involvement.

The goal of high school is for students to graduate after four years and continue to career training. Parental attention and support facilitate this process so that adolescents focus on graduation. In a recent meta-analysis, parental involvement led to better overall educational outcomes for adolescents, but also increased the likelihood of adolescents having higher scholastic achievement (Jeynes, 2012). Since high school is an important aspect in the lives of adolescents, this is a critical time for parental involvement (Wallace, 2016). As students mature and want parents to distance themselves, parents begin to view high school aged children as more independent causing them to disengage from previous school involvement (Coleman & McNeese). Although independence is part of the developmental process for adolescents, it does

not mean that parental involvement in academic and extra-curricular events are not needed. However, parents may withdraw from some activities such as help with homework and involvement in after school activities (Núñez et al., 2015). Researchers indicated that parental involvement in high school is a predictor of academic success for adolescents (Ross, 2016). Adolescents may insist that they do not need or want parental involvement, but too much leniency with rules communicates a lack of concern (Barge & Loges, 2003). Adolescents still need acceptance and approval from parents and guardians; therefore, parental involvement through checking homework and communicating expectations is a way to reinforce approval and concern (Wilder, 2014). A recent study that cites homework assistance as the most common type of parental involvement, also found that parental involvement is more essential in middle and high school than in elementary school (Núñez et al., 2015). The level of involvement is up to the parent, and it may not be adequate for prevention of further behavioral concerns that may result in delinquency and incarceration rather than institutionalization (Mojtabai et al., 2015).

Parental involvement and interaction are important in promoting positive mental health and behavior through modeling of appropriate coping strategies (Wang & Sheikh-Kahil, 2014). Maintaining personal wellness, positive mental health strategies and becoming aware of personal vulnerabilities may decrease the need for psychiatric hospitalization of adolescents (Priester et al., 2016). Haine-Schlagel, & Walsh (2015) suggested that parental involvement should be considered in improving mental health outcomes for adolescents. Studies examining traumatized children have found that the child's support system, specifically an involved mother, is directly associated with the outcome for the child (Cook et al., 2017). There is little definitive research on the topic of parental monitoring or involvement and the incidence of juvenile delinquency identified as already existing through the current research; therefore, more research is needed.

Literacy

Literacy skills, although important in social and cultural practices, are below expected average in 30% of children aged ten to eighteen (Birr Moje, Overby, Tysvaer, & Morris, 2008). Adequate reading skills are necessary for career development and successful adult social functioning (Wallace, 2016). Learning to read is a critical skill in early school development and starts when the child begins school. Good reading skills are tied to school and academic success and mark a child positively or negatively from kindergarten throughout his or her academic career. In a study of the *Matthew Effect*, it was found that students who did not perform well in reading in kindergarten continued to perform poorly in subsequent grades (McNamera, Scissons, & Gutknecht, 2011). When this continues throughout education, the student has a struggle with academics and school and may have an unsuccessful career. Additionally, poor literacy skills may couple with other factors contributing to school progression, mental health status, and delinquency. Reading disabilities often affect struggling readers and may require more intensive and lengthy interventions (Vaughn et al., 2015). In Mississippi determining risk factors and potential causes for academic difficulties through sharing data between education systems and workforce developers has been determined crucial to providing interventions through policy change for adolescent academic, career and personal success (Walker, Hillesheim, & Coley, 2015).

Reading, an important skill in education, serves as a foundation for high school success, graduation and career advancement. A recent study stated that high school drop-out rates are indicative of negative outcomes such as incarceration, unemployment and mortality (Wood, Kiperman, Esch, Leroux, & Truscott, 2017). Concern about reading comprehension is compounded by the fact that not all schools and grade levels have dedicated reading classes.

Research indicates that not all teachers have the skills to teach reading at the level needed for adolescent growth in literacy (Goldman & Snow, 2014). Adolescents need adequate reading skills in order to secure and maintain gainful employment. Empirical data have shown that unemployment rates are 31% higher for those who have reading disabilities (Eloranta, Närhi, Eklund, Ahonen, & Aro, 2019). Dyslexia, a neurobiological reading disorder that affects many students with reading difficulties, has been found to be responsive to appropriate interventions (Fisher, 2015).

Reading has proven to be a determining factor for academic and career success (York, Gibson, & Rankin, 2015). Difficulty reading leads to frustration and problem behaviors actual or perceived (Algozzine et al., 2011). Problem behavior may impact opportunities for learning, which further impedes the academic process. These problem behaviors have been linked to boys being six times less likely to graduate high school than girls (Darney et al., 2013). Vaughn et al. (2015) indicated that reading intervention for students with reading disability will decrease the rate of dropping out; therefore, this study posits a direct relationship between reading and dropping out. In research on Mississippi students, 4101 students out of 27,899 dropped out of high school in 2006 (Walker et al., 2015).

Socio-Economic Status

Socio-economic status either affords opportunity and privilege or it can limit individual access to opportunities. Low socio-economic status creates a struggle to obtain needed resources for education, psychological and physical health services, and sometimes access to basic needs such as food and shelter. The limitation of access to certain resources, impede an individual's personal choices and decisions. In research published in *Applied Science Reports*, it was found that the key factors in juvenile delinquency included low socio-economic status and poor

educational background (Nisar, Ullah, Ali, & Alam, 2015). Furthermore, research has found that adolescent in homes from low socio-economic family status and neighborhoods were more likely to become juvenile offenders (Rekker et al., 2015). Juvenile offenders, if incarcerated, miss the opportunity to become well-educated and ultimately secure gainful employment. This coupled with not having basic psychological and physical needs met, may lead to mental health concerns such as the development of symptoms of depression, anxiety or other psychological disorders. Recent research has found links between socio-economic status, brain function, and risk of depression in adolescents (Uddin, Jansen, & Telzer, 2017). With correlations between possible incarceration and risks for mental illness, as well as socio-economically disadvantaged adolescents as prevalent in these groups, it is plausible that academics will suffer compounding the barriers to success for the individual. Strong (2017) reported that graduation is negatively influenced by low socio-economic status specifically in minority groups indicating that those with lower SES do not graduate at the same rate as their middle-class peers.

Graduation

Mississippi public schools are held to accountability standards that include reading proficiency and maintaining graduation rates (MDE, 2018). Even though accountability systems and models vary, graduation rates are considered an integral part of measuring accountability standards (MDE, 2019). According to the NCES (2019) graduation rates are an area of concern for all states, but specifically for Mississippi since the Mississippi rates are below the national average and lower for minorities. The MDE website (2018) stated that “The Mississippi Statewide Accountability System assigns a performance rating of A, B, C, D, and F for each school and district based on established criteria regarding student achievement, individual student growth, graduation rate, and participation rate”. According to the National High School

Center, more than one third of high school students in the United States drop out prior to completion, which is the highest rate during the ninth-grade year (Heppen & Therriault, 2008).

Adolescents who are not progressing academically and educationally are at-risk for additional problems. Often youth who are involved in criminal offenses are not doing well in school. Does difficulty in school lead to delinquency or is it a result of delinquency? Research indicated that improving reading skills of youth decreases the incidence of delinquency and recidivism (Katsiyannis, Ryan, Zhang, & Spann, 2008). If there are interventions that may take place at the school level that could decrease the likelihood of offending or reoffending, then it is worth researching and implementation. Studies have shown that incarcerated youth respond well to programs such as Read180, which can support literacy and success (Houchins, Gagnon, Lane, Lambert, & McCray, 2018). Providing the students with the tools for success in school could improve self-image, encourage success, and potentially restructure the cognitions leading to actions that affect youth options and problem behaviors (Lemberger & Clemens, 2012).

Youth Incarceration

Incarceration of children and adolescents is a growing problem with long-term effects on the children involved, their families and on the stability and strength of American society. According to Listenbee (2013) on a randomly selected day, October 27, 2010, there were 243 youth incarcerated in Mississippi youth detention facilities. Additionally, there are marked disparities between the numbers of incarcerated youth who are of color and white youth. It is clear from examining national statistics in juvenile detention facilities and residential behavioral facilities that youth of color are at substantially greater risk than are their white counterparts of being incarcerated or admitted to such facilities. According to statistics reported in an article by Davis, Irvine, and Ziedenberg (2014), from the National Council on Crime and Delinquency,

from 2002-2012, 66.8% of youth offenders were youth of color including African American, Hispanic, and Native Americans. Incarcerated youth are also at-risk for victimization through physical and sexual assault while in juvenile facilities. Research indicated that 12% of youth incarcerated report sexual assault by peers, whereas 10% report abuse by staff members (Lambie & Randall, 2013). Aside from the circumstances that brought the adolescent offender to the detention facility, once there the possibility of victimization, creates additional trauma and further risk of assault. Victimization in the form of physical assault, sexual assault, and emotional traumatization result in social and emotional damage for the already at-risk adolescent (Lambie & Randall, 2013).

Adolescents serving sentences in juvenile detention facilities are also at-risk for mental-health conditions that may affect recidivism, such as PTSD, CD, depression or substance abuse that may develop during incarceration (Colins et al., 2011). Mental health disorders in incarcerated youth occur at a higher rate than those peers who are not incarcerated (Lambie and Randall, 2013). The incidence of anxiety, depression and suicidal ideation makes critical the availability of mental health services for youth during their incarceration (Shelton et al., 2011). An additional issue that may influence the mental health of these children is the type of facility in which they are placed. If adolescents are placed in an adult facility, the incidence of depression is significantly higher (Ng et al., 2011).

Behavioral and emotional issues may be compounded by the added stress of incarceration causing an escalation in severity of aggressive or self-harm behaviors. Suicide attempts are another problem exacerbated by incarceration. Recent studies found that 9.22% of incarcerated youth attempted suicide as a result of bullying in a facility (Kiriakidis, 2008). Psychiatric hospitalizations could result from issues developing or compounded by incarceration in a

juvenile facility; however, there is also the concern that mental health needs may have existed prior to sentencing and be neglected by the detention facility. Behavioral and mental health concerns create a vicious cycle of negative outcomes for adolescents (Darney et al., 2013).

Education in juvenile detention facilities, when present, is rarely equivalent to the education youth have access to in their community schools, compounding the already problematic academic background for these children. In 2006 the periodical, *Preventing School Failure*, stated that 136,000 students were housed in juvenile detention facilities with educational services that were deemed substandard (Houchins, Puckett-Patterson, Crosby, Shippen, & Jolivette, 2009). Ideally, children incarcerated in these facilities attend classes and obtain an education with peers, while learning to incorporate adaptive, social, and educational skills. However, in detention, students do not have access to the traditional educational environment. Research from the *Journal of Criminal Justice* indicated that students who progress well academically in incarceration have a significantly higher chance of returning to school and being successful than those who do not (Blomberg, Bales, Mann, Piquero, & Berk, 2011). This research supported the need for quality education in juvenile detention facilities. Adolescents serving time in a detention facility do not need the additional barrier to success of an inadequate education.

Institutionalization

Although institutionalization of adolescents in mental health residential or inpatient facilities may be necessary, removal from the home and family may have negative implications for the adolescent (Dixon, 2009). Data from research suggested that approximately one third of adolescents who are in residential treatment for mental health have experienced some type of trauma (den Dunnen, Stewart, & Cook, 2012). This trauma may be compounded by the stresses

of the treatment. Other research suggested that adolescents may actually learn deviant behavior from peers while in residential treatment (Preyde et al., 2011). Negative behaviors and their influences may follow the individual back to this community resulting in negative outcomes such as criminal activity or participation in gang related activity.

Adolescents receive treatment for their mental health issues while in residential treatment; however, their academics may also suffer in this environment. Although some facilities may provide educational services, when the adolescent is spending necessary time in group or individual therapy working on mental health issues, he or she is not involved in the typical amount of instructional time in the school setting. In prior research, adolescents in residential treatment are behind in reading, language, math and academic knowledge (Hagaman, Trout, Chmelka, Thompson, & Reid, 2010). Additionally, research by Suldo, Thalji and Ferron (2011) found that adolescents with higher rates of psychopathology have lower academic achievement than peers. Progress towards a better understanding of how mental health impedes academic success is restricted by the failure to consider co-occurring issues such as depression, attention problems and delinquency (McLeod, Uemura, & Rohrman, 2012). Furthermore, mental illness has been connected to high rates of dropping out of high school, which has been positively influenced by proper intervention and parental involvement (Frueденburg & Ruglis, 2007).

Parental involvement in treatment may result in better long-term outcomes for adolescents who are institutionalized. Studies by Bettman and Jaspersen (2009) revealed a significantly higher rate of satisfaction with residential treatment for engaged parents, and less satisfaction with residential treatment when parents were less involved. Parental involvement has been identified as a crucial part of education particularly with special education students (Laskey

& Karge, 2011). Research showed that approximately 50 percent of youth in detention facilities are eligible for special education services and have higher rates of mental health treatment needs than do their same age peers (Leone & Fink, 2017). When the adolescent leaves the treatment facility, he or she returns home to family. Successful transition from treatment to the community environment is depends in some part to the cooperation and participation by parents or caregivers in reinforcing treatment goals and techniques.

A national survey from prior research found that community mental health services are parent, youth, and family driven, whereas only 20% of residential programs reported family driven practices (Brown et al., 2010). According to current research, parental involvement is beneficial to positive outcomes for youth who were institutionalized (Burke, Pardini, & Loeber, 2008).

Summary

The literature indicated that literacy skills, parental involvement, and socio-economic status may influence high school graduation status, adolescent mental health institutionalization in psychiatric hospitals, and incarceration of youth. The connections are found both directly and indirectly from prior research studies. This review of research literature attempted to make these connections, while revealing the need for further research. According to Barnett et al. (2015) literacy skills can be directly and indirectly related to graduation rates, adolescent mental health institutionalization and youth incarceration. A student's struggle with reading may develop early in the educational process and continue into adolescent years with increasing levels of difficulty (Fuchs, Fuchs, & Compton 2010). Reading difficulty is connected to the risk of failing to graduate from high school or failure to pursue continued education. As problem behaviors develop in school, and possibly in the community, the potential of criminal behavior develops

(Green et al., 2013). Criminal behavior can result in legal problems and ultimately incarceration of adolescents in juvenile detention facilities.

Incarceration, which interrupts the continuity of the educational process by limiting access to traditional classroom instruction and may negatively affect achievement upon return to school after incarceration (Blomberg et al., 2011). Coping with the struggles of academics, emotions and conditions of confinement creates mental health problems for incarcerated youth (Umbach, Raine, & Leonard, 2018). The education process when interrupted may have an impact on an adolescent's success with achieving graduation from high school.

Graduation from high school in the state of Mississippi requires completion of a set criteria determined by the Mississippi State Department of Education, which includes Carnegie units in English (MDE, 2019). This depicts why literacy skills previously discussed are so important for the long-term success for adolescents. With unemployment rates at 65% higher for those dropping out of high school, it is evident that dropping out of high school limits opportunities for employment and an individual's ability to maintain average or above socio-economic status (Rath, Rock, & Lafierre, 2013). Walker et al. (2015) found 15.46% of those who did not graduate, ended up on government assistance programs such as SNAP. High school graduation is crucial to success for adolescents.

It is suspected that those adolescents that have been institutionalized have also struggled with reading in school. Reading skills are critical academic skills, used in various aspects of life including school, career and personal management (Hutton & Hembacher, 2017). Literature addressing the impact of literacy on public mental health has found that 69% of the research sample of individuals with mental illness read below the 8th grade level (Lincoln et al., 2017). Research also indicated that those with difficulty reading are more likely to have anxiety

disorders than same age peers (Mammarella et al., 2016). Determination of links between reading and behavioral concerns in school will provide the option of earlier intervention (Freeman & Simonsen. 2015). Often mental health problems in adolescents manifest at school as behavioral problems, and when behavior becomes unmanageable at school, parents are contacted to assist with behavior management (Dishion et al., 2014).

Many individual circumstances contribute to juvenile delinquency and youth incarceration, but failure in academics appears to be directly linked to youth criminality (Robertson et al., 2011). A study on youth in a crime prevention program indicated that 55-61% had some level of reading difficulty (Metsala, David, and Brown, 2017). Researcher have shown that incarceration decreases cognitive function in as little as four months (Umbach et al., 2018). This creates a gap in functioning for youth as they return to school. The opportunities to continue reading or improve academic studies are limited in detention facilities. Wexler, Reed, and Sturges (2015) found that while incarcerated students value reading as a skill, the opportunities for reading instruction is limited. The links between reading struggle, behavior and incarceration are supported in literature.

Parental support and involvement in school is crucial for adolescents; since it is the place where students spend much of their day. However, there are barriers that prevent parents from optimal school involvement (LaRocque et al., 2011). With older students, parents may expect more independence, and be less involved with school (Coleman & Mcneese, 2009). Adolescents need personal accountability, but still require guidance, which begins long before adolescence, when parents need to be active in academic instruction with their children. Parental involvement in reading to a child and their encouragement of reading is critical. Recent studies support that the majority of first graders read below the national norm (Peng et al., 2018). Can these first

graders ever catch up or are they still struggling as adolescents? Better relationships with the parents yield higher expectations academically in later adolescence. Positive parenting results in greater academic gains over four years of high school (Hill & Wang, 2015). A lack of parental involvement may be a direct result of socio-economic struggle due to an inability to attend to adolescent needs due to multiple jobs demands and difficulty with transportation (LaRoche et al., 2011). Pemberton and Miller (2015) explored the involvement of parents from low socio-economic backgrounds, finding that reading levels significantly improved in two months more than the previous seven months with increased parental involvement.

In recent literature, socio-economic status is implicated as having direct effects on graduation, psychiatric hospitalizations and incarceration of adolescents. Research studies have also indicated a distinct connection between parental resistance and juvenile delinquency (Haine & Walsh, 2015). Furthermore, adolescents from homes with lower socio-economic status have higher rates of depression (Swartz, Harini, & Williamson, 2017). Devinish, Hooley, and Mellor, (2017) found that socio-economic status, stress at home, violence in the community, conflict with parents, and parental depression and economic stress were important in creating negative outcomes for adolescents.

Disadvantaged students are less likely to come out of school prepared for either college or career according to the U.S. Department of Education (Bromberg & Theokas, 2016). Halonen et al. (2017) has indicated that adolescents from low socio-economic conditions have more difficulty with mental health concerns than peers. Recent studies found that low-socio-economic status carried a higher risk for inpatient psychiatric hospitalization for patients with bi-polar disorder (Pan et al., 2016).. Research that examines the correlates of the variables included in the current study is inconclusive. Due to a lack of specific research, additional research is needed to

determine whether relationships between the variables of literacy skills, parental involvement, and socio-economic status and the outcomes of graduation rate, youth psychiatric hospitalization rate and juvenile incarceration exist. The results are expected to be beneficial in planning programs and policies affecting overall success for adolescents in Mississippi.

CHAPTER III

METHODS

The purpose of the current research was to determine whether a relationship existed between the independent variables, parental involvement, socio-economic status, and literacy skills with the dependent variables, high school graduation rates, juvenile incarceration rates and youth psychiatric hospitalization rates for Mississippi adolescents. In an effort to increase knowledge and data on the potential risks to adolescents and to provide statistical data for development of intervention programs, this study will assess the relationship between these above-mentioned variables. By determining the relationships between variables, the researcher hoped to provide insight into which variables had the strongest relationships; therefore indicating the greatest areas of need for interventions for at-risk adolescents. Understanding the variables influencing the potential of becoming an at-risk adolescent is salient to securing preventative and interventional counseling methods, which may impact the lives of adolescents. The statistical data from this analysis provides evidence to support the need for these prevention and intervention programs to benefit at-risk youth.

Research Questions

Research questions were developed to determine whether a relationship existed between the three independent variables, parental involvement, socioeconomic status and literacy skills, and the three dependent variables, graduation rates, juvenile incarceration rates, and psychiatric hospitalization rates.

1. What is the relationship, if any, between the dependent variable, graduation rate and the independent variables, parental involvement, socio-economic status, and literacy skills?
2. What is the relationship, if any, between the dependent variable juvenile incarceration rate and the independent variables, parental involvement, socio-economic status, and literacy skills?
3. What is the relationship, if any, between the dependent variable, psychiatric hospitalization rate and the independent variables, parental involvement, socio-economic status, and literacy skills?

Selection of Data

The current research was based on aggregated data gathered from publicly published resources. The data consisted of statistics obtained from the MDE, Mississippi Department of Mental Health, and the Mississippi Department of Human Services Youth Division public databases. With efforts to keep the samples from each database as accurate as possible, the data from the same one-year period was used.

To ensure that data were from the appropriate age group a random sample of schools was chosen from the list of middle and high schools for the MDE. For the school related data random sample was chosen representing approximately one third of the population, because that is approximately what is represented in the dependent variable population data not derived from the public-school setting. This sample was chosen to represent the population of adolescents in Mississippi, because the entire population of adolescents in Mississippi was not used within each of the databases. The chosen methods of data collection for the current research were an effort to maintain the integrity of the study. These data compiled for all independent variables was from the same randomly selected sample of 45 schools. These data were global data per district

presented in aggregated variables. These data were narrowed to the most appropriately fitting 45 samples needed to perform the multiple regression analyses.

Approximately one third of the population of Mississippi adolescents was used in the information collected for hospital and incarceration rates; therefore, approximately one third of the population of Mississippi public school students were used. The number of 45 cases was also consistent with research recommendations of ten cases per independent variable and one additional set for intercept degrees of freedom (Stark & Noel, 2015). The information was reviewed, and any schools not having data to report for all of the school-related variables in the study were removed. The same 45 districts were used to create the aggregated dependent variable of graduation rate. Additional global data from the state was aggregated to form the dependent variables for incarceration and psychiatric hospitalization.

The 2017-2018 data from the Mississippi Public Schools English Language Arts levels of proficiency from the state composite found on the MDE (2019) accountability information from the ESSA Report Card were used for literacy skills. The specific proficiency percentage was used from each of the selected school districts and specifically the high school data when available. The total enrollment for the State of Mississippi for the 2017-18 school year was 465,913, and the enrollment for the 45 districts in the study totals 157,972 (MDE, 2019). Of those students enrolled, approximately 12,081 were eligible for testing in the 45 districts selected at the high school level. The percentages were derived from the proficiency levels of those tested. According to MDE (2019), the proficiency percentages were the results of those students tested who scored proficient or advanced on the state testing. The specific percentages of proficiency ranged from 8.04% to 70.40% proficient. The regression analysis included the proficiency percentages from each district as the independent variable for literacy skills.

Statistics from a parental involvement survey given to special education student's parents, posted on the MDE website for the year 2018, were used to determine levels of parental involvement. The data were coded as documented parental involvement percentage per school from the surveys given to the schools in the randomly selected sample. The MDE (2019) reported that a total of 53,971 surveys given in the state with 22,630 surveys given in the 45 selected districts. The participation percentages ranged from 9.10-92.63. The specific percentage of surveys completed for the 45 districts in the study was used for the variable parental involvement.

The 2017-18 publication of the Title I schools list in the state of Mississippi was used to account for the aggregated data for the socio-economic status variable. There was a total of 465,913 students reported as attending Mississippi public schools during the 2017-2018 school year, and there were 157,972 students in the districts representing the socio-economic status data for the current research (n.d.). There are approximately 157 school districts in the Mississippi public school system, and 45 were selected for the data used within this study. According to the MDE (n.d.c.) there are some charter schools not serving high school levels, and there are districts that have consolidated in recent years. The specific percentage of poverty was used from each of the randomly selected schools to create the variable of socio-economic status. The variable is dichotomous and is coded as advantaged (0) and disadvantaged (1).

The dependent variable data were also global data, by state, which were aggregated into dichotomous dependent variables. Information was obtained from the same 45 Mississippi public school districts that the independent variables were derived in an effort to maintain consistency and integrity of the study. The information for the incarceration rates came from public data bases for the Mississippi Detention facilities that house adolescents. The psychiatric

hospitalization data also came from public databases for Mississippi state funded facilities serving adolescents.

Graduation data were obtained through the MDE public website. The graduating class for the 2017-2018 school year is calculated by the state from the cohort which began ninth grade in 2014 (MDE, 2019). This information included the percentages for the Mississippi school districts as reported for the 2017-18 school year. The MDE (2019) states that the cohort for those entering ninth grade in the year 2013-14 school year are used to determine on time graduation in 2017-18 school year. There were 45 districts included in the current research. There were approximately 12,614 students in the cohort for the 45 districts selected for the study with the state graduation rate at 83% (MDE, 2019). This dichotomous variable was coded as not graduated (0) and graduated (1).

The Department of Mental Health Statistics for adolescents age 12-18 receiving inpatient treatment for mental health disorders were used to assess the outcomes on psychiatric hospitalization. The institutions from the database were Mississippi public facilities serving adolescents. The numbers were listed as number served, inpatient and outpatient. There were 3295 total youth served, of which 2783 were outpatient and 512 were inpatient in Mississippi adolescent mental health facilities in 2017 (MDMH 2018). The number of psychiatric inpatient admissions was used to create a percentage and then coded as a dichotomous variable of not hospitalized (0) and hospitalized (1).

Publicly available juvenile justice statistics from the Mississippi Department of Human Services Youth Division Annual Reports from 2018 were used to assess incarceration rates. According the MDHS (2018) there were a total of 3070 youth sanctions with 531 youth going to

detention and 151 to a developing center to equal 682. The data were aggregated into a percentage. The data percentage is coded as incarcerated (1) or not incarcerated (2).

Justification for Selection of Data

The chosen databases have openly published public data to address specific information on the areas with proposed research questions. The MDE has public access to data on the Mississippi Academic Assessment Program's English Language Arts scores from grades 3-8 and grade 10-12 (n.d.a.), which will indicate literacy skills and level. Parental involvement data for 2018 were also found at the MDE (n.d.) as it is gathered for Special Education documentation. Special Education student's parents were surveyed yearly to obtain data to better serve the students, and the data were reported along with the SSP/APR information (n.d.e.). Socio-economic data were derived from the MDE economically disadvantaged reporting data found on the 2017-18 Title I Reports, which reports on the ninth- grade cohort of the graduating class (n.d.c.). Because there are a large number of students in Mississippi public schools, and the data are published by school and district, it was determined that aggregate data would be beneficial, minimally invasive, and less identifiable to individuals. It is also beneficial to use aggregate data in the interest of timely research. A study by Jacobs (2016) found that using aggregate data yielded almost identical results as individual data. The number of 45 cases was selected, because it was approximately a third of the population of the Mississippi public school districts and coincided with the criteria for number of cases for the multiple regression analysis. The decision for 45 cases was based on research that suggested ten (10) cases per variable and one extra for degree of freedom at intercept (Stark & Noel, 2015).

The Mississippi Department of Human Services data found in the 2017 annual report, including incarceration rates and subcategories of incarcerations (DMH, 2019) coinciding with

the other data, which were from the concurrent year and specific data available for the general population of Mississippi. The U.S. Department of Justice collects statistical data by state that is readily available to the public, which can be customized for specific states, ages, and populations through a database called EDAJCS, which directs to the Mississippi Department of Human Services Annual Reports (OJJDP, 2019). This data also covers a large and diverse population, which encompasses the general population of Mississippi. The databases chosen are public, accurate and valid. Use of data from the same reporting year was determined to provide the most accurate sample. Even if there is more recent data in one or more databases, the most current common year was used to attempt to preserve validity of results. Aggregate data derived from global data are beneficial as it is easily accessible while maintaining confidentiality of the individuals.

Data obtained for the dependent variable of psychiatric hospitalization were from Mississippi public databases of facilities who serve adolescents. Because public school data were used for the independent variables and graduation dependent variables, public psychiatric hospitalization data were chosen to maintain consistency of the population in the current research. Had the researcher chosen to include private school information, then private hospital information would have been used as well. The data from public institutions was easily available through public databases. Private institution data may have been more difficult to obtain, and not have been applicable for the aggregate study.

Although this data comes from multiple sources for the different variables, the sample was from Mississippi adolescents. All data were aggregated to create a representation of the adolescents in Mississippi. The data were all from the same years 2017-2018. Specific percentages are used for the continuous independent variables. The dependent variable samples

are derived from percentages of data points previously collected but using the same format for each dependent variable. The data are coded for a dyadic study.

Institutional Approval

Because this study used aggregated data from public databases, it was not necessary to gain approval from the Institutional Review Board (IRB) through the Human Research Protection Program at Mississippi State University. Public databases were used. This was verified with the IRB committee chair for the current research. The researcher has a current IRB certification for Mississippi State University.

Statistical Analysis

All statistical testing was performed using the IBM SPSS (2019) statistical package version 26. Three separate multiple regression analyses were conducted to determine correlations between the independent and each of the dependent variables. Specifically, three multiple regression analyses determine the relationships between the independent variables of literacy skills, socio-economic status, and parental involvement and the dependent variables of high school graduation rate, juvenile incarceration rates, and adolescent psychiatric hospitalization rates. Similar research studies were conducted using multiple linear regression analysis to determine predictive relationships. Hampden-Thompson and Galindo (2017) used multiple linear regression analysis to determine that there were relationships between family relationships, socio-economic status and school success.

Prior to running the multiple regression analysis, each set of data containing one outcome or dependent variable and three predictor or independent variables was tested for assumptions to determine if the data were appropriate for use with a multiple regression analysis. The purpose of

the assumptions was to determine linearity, homoscedasticity, multicollinearity, testing for significant outliers, high leverage or influential points, and normality (Laerd, 2017).

To assess assumptions, steps were followed as recommended by Laerd (2017) for multiple linear regression analysis. All tests for assumptions were completed. Linearity was tested using a scatterplot and visual inspections. Homoscedasticity was also tested with visual inspection. Multicollinearity was assessed through correlation coefficients, tolerance, and VIF values. Through IBM SPSS (2019) output, Case wise diagnostics were examined to detect outliers; leverage was examined for high points; and Cook's distance was measured for influential points. The normality was assessed using a P-P plot. After assumptions were met, the model summary and ANOVA were assessed for model fit. Next the correlations were assessed to determine relationships. Finally, the coefficients for the regression are assessed to determine linear relationships. The results for all testing are found in subsequent chapters.

The multiple linear regression analyses can be used to predict dependent variables based on more than one independent variable, which makes it an extension of linear regression (Laerd, 2017). Although some researchers may not approve, research by Hellevik (2009) stated that not only is multiple regression an acceptable analysis for dichotomous variables it is actually more appropriate than logistic regression in finding causal pathways. These facts support the use of multiple linear regression analysis for the current research as it is concerned with causes of decreased graduation rates, increased incarceration rates and increased psychiatric hospitalization rates for adolescents.

CHAPTER IV

RESULTS

The purpose of this study was to determine the relationships if any between the dependent variables of high school graduation rates, juvenile incarceration rates, and psychiatric hospitalization rates among Mississippi adolescents and the independent variables of parental involvement, socio-economic status, and literacy skills. Multiple regression analyses were used to determine if there were linear relationships between the independent variables, high school graduation rates, juvenile incarceration rates, and adolescent psychiatric hospitalization rates and the dependent variables, parental involvement, socioeconomic status and literacy skills.

This chapter includes a summary of the primary findings and the data analyses that evaluated whether predictive relationships existed between these outcome variables and three independent variables considered in the literature to contribute to these outcomes for at-risk adolescents. The sample for this study includes aggregate data from three public Mississippi databases: (a) the MDE, (b) the Mississippi Department of Mental Health, and (c) the Mississippi Department of Human Services Youth Division, all public access databases. From these data bases 45 cases, representing 45 Mississippi schools was selected. The 45 cases included data from the outcomes for high school graduation rates, juvenile incarceration rates, and adolescent psychiatric hospitalization rates in Mississippi.

To determine if there was a linear relationship between the dependent variables and the independent variables chosen, three research questions were addressed in this study:

1. What was the relationship, if any, between the dependent variable, graduation rate and the independent variables, parental involvement, socio-economic status, and literacy skills?

2. What was the relationship, if any, between the dependent variable, juvenile incarceration rate and the independent variables, parental involvement, socio-economic status, and literacy skills?

3. What was the relationship, if any, between the dependent variable of psychiatric hospitalization rate and the independent variables, parental involvement, socio-economic status, and literacy skills?

Descriptive Data

The data for this study were retrieved from three different archival public websites, the MDE, the Mississippi Department of Mental Health, and the Mississippi Department of Human Services Youth Division public databases. A total of 55 cases were randomly selected from 151. After removal of unsuitable cases, a total of 45 cases were left to be used. Those removed were schools with missing data from one or more datasets and not having hospitals that served adolescents. All of the facilities from which data were collected are those serving adolescent Mississippi residents. The incarceration rates were from Mississippi detention centers. Of those sanctioned, there were 23% incarcerated youth, leaving 77% not incarcerated. The psychiatric hospitalization rates were from adolescents treated in Mississippi state funded hospital facilities. Of the adolescents treated in Mississippi for the years 2017 to 2018, there were 16% hospitalized, leaving 84% not hospitalized (MDH, 2019). All of the 45 schools were Mississippi public schools, which represent the variables for graduation rate, parental involvement, and literacy skills. The 55 cases were randomly selected and screened using the first 45 cases. As

inappropriate cases were found they were removed. Examples of inappropriate cases include cases not having data available for one or more independent variables, districts with no high schools, or districts not participating in surveys. The summary statistics indicated that the sample mean parental involvement was 56.79, the mean of socio-economically disadvantaged persons was 78.17, and the average literacy proficiency was 36.84. In this sample, an average of 80% of the adolescents eligible graduated from high school. From those in the sample who were treated for mental illness, there was an average of 82% not hospitalized and an average of 78% who received sanctions but were not incarcerated. Table 1 summarizes the mean, standard deviation for the dependent and independent variables.

Table 1

Summary of Statistics of IV and DV Variables

	M	SD	N
Graduation Rate	.80	.40	45
Incarceration Rates	.78	.42	45
Hospitalization	.82	.39	45
Parent Involvement	56.79	23.72	45
Socio-economic	78.17	20.06	45
Literacy	36.84	14.60	45

Research Question 1

What was the relationship, if any, between the dependent variable of high school graduation rate and the independent variables, parental involvement, socio-economic status, and literacy skills?

This question was tested using a multiple regression analysis that examined the first assumption. The results indicated that graduation rates can be predicted by socio-economic status, and there were correlations between graduation rates and socio-economic status in Mississippi adolescents. Summary of the model is contained in Table 2 below.

Table 2

Summary of Regression Analysis One

<i>Model</i>	<i>R</i>	<i>R²</i>	<i>Adjusted R²</i>	<i>Standard Error of Estimate</i>
1	.46	.21	.16	.37

Examination of the $R^2 = 0.21$, value indicates that the model accounts for 21% of the variability in graduation rates. The R^2 for the overall model is .21 with an adjusted R^2 of .16. Variance of the dependent variable is explained by the independent variable to be between 16% and 21%. The model is found to be statistically significant with $p = <.05$ as the results of the ANOVA are $p = .02$. Graduation rates may be expected to be predicted by parental involvement, literacy, and socio-economic status. However, at $p = <.05$, socio-economic status is the only independent variable found to be significantly predictive. There were significant Pearson correlations found between graduation rate and both socio-economic status and literacy skills. This indicates a

linear relationship exists between graduation rates and socio-economic status. The slope is negative for the unstandardized coefficient B. This indicates that as socio-economic disadvantage decreases, graduation rates increase, and as socio-economic disadvantage increases, graduation rates decrease. Summary Table 3 lists the correlations between the dependent/predictor variables and the independent variable, high school graduation rates.

Table 3

Correlations of Predictor Variables Question One

	GRAD	PI	SES	LIT
GRAD	1.00			
PI	.02	1.00		
SES	-.44	.22	1.00	
LIT	.34	-.05	.62	1.00

Assumptions for the multiple regression analysis were tested. The descriptive statistics were analyzed and found to have no missing values. Scatterplots were examined and linearity was established as variables followed a straight line. Homoscedasticity was assessed and found through visual inspection of a scatterplot of unstandardized predicted values and Studentized residuals. Multicollinearity was assessed by observing the results of tolerance, and all were greater than .01, indicating no multicollinearity. There were no Studentized deleted residuals

higher than ± 3 , and no leverage points higher than .02. A P-P plot was used to assess the assumption of normality, which were met as all data points were along the diagonal line indicating a significant impact on prediction.

Research Question 2

What was the relationship, if any, between the dependent variable, incarceration rate and the independent variables, parental involvement, socio-economic status, and literacy skills?

This question was tested using a second multiple regression analysis. The analyses indicated that incarceration is not well predicted by the independent variables, but there are relationships between incarceration and the independent variables. See Table 4 below.

Table 4

Summary of Regression Analysis Two

Model	R	R²	Adjusted R²	Standard Error of Estimate
1	.42	.18	.12	.39

The model accounts for little variability in the dependent variable, incarceration. For the overall model the $R^2 = 0.18$ with an adjusted $R^2 = 0.12$, indicating that approximately 12% of the variability is accounted for by the independent variables. According to Lared (2015), this is a low medium effect size. With an ANOVA result of .04, there is statistical significance of the model at $p = .05$. A significant impact on the prediction of incarceration in relationship to parental involvement, socio-economic status, and literacy skill is found as a result of the

ANOVA. The coefficients indicate that $p > .05$ for all independent variables; therefore, there is no linear relationship between incarceration and the independent variables.

To test the assumptions of the multiple regression analyses, a scatterplot was examined to determine linearity and homoscedasticity. The results indicated that linearity was established, and homoscedasticity is present. The tolerance coefficients were all greater than .01 and the VF is not greater than 10 indicating that there is no multicollinearity. There were no Casewise diagnostics reported as there were no outliers found through studentized residuals greater than ± 3 . There were no leverage points higher than .02. The P-P plot indicated normality.

The absence of a linear relationship only implies that incarceration cannot be predicted by parental involvement, socio-economic status, and literacy. The Pearson Correlation Coefficient does, however, indicate a relationship between incarceration and both socio-economic status and literacy. These are considered moderate correlations according to Lared (2015) at $r = .37$ and $r = .35$ respectively. The correlations between incarceration as the dependent variable and the independent variables of socio-economic status and literacy were both found significant at $p < .05$. The model indicates that relationships between incarceration of adolescents and the variables socio-economic status and literacy exist. Table 5 below summarizes the correlational relationships between the independent variable and the dependent variables. For socio-economic status the relationship was negative, meaning as socio-economic status decreases incarceration increases and conversely as socio-economic status increases incarceration decreases.

Table 5

Correlations of Predictor Variables Question Two

	INCAR	PI	SES	LIT
INCAR	1.00			
PI	.07	1.00		
SES	-.37	.22	1.00	
LIT	.34	-.05	.62	1.00

Research Question 3

What was the relationship, if any, between the dependent variable, psychiatric hospitalization rate and the independent variables, parental involvement, socio-economic status, and literacy skills?

This question was tested using a multiple regression analysis. The data analysis indicated that psychiatric hospitalization could be predicted by socio-economic status, but not the other independent variables. The model indicated that there were correlations between psychiatric hospitalization and all of the independent variables. Table 6 summarizes the model.

Table 6

Summary of Regression Analysis Three

Model	R	R²	Adjusted R²	Standard Error of Estimate
1	.45	.20	.14	.36

In this case, the $R^2 = 0.20$ for the overall model indicates that the independent variables accounted for 20% of the variability in the dependent variable, psychiatric hospitalization. The adjusted $R^2 = 0.14$, indicates the variance of the dependent variables explained by the independent variables to be between 14% and 20%. This is a lower medium range of effect size according to Laerd (2015). When $p = <.05$, the ANOVA of $p = .03$ indicates that the model is significant. This result indicates that psychiatric hospitalization for mental health issues may be predicted by parental involvement, socio-economic status, and literacy skills. The results of the coefficients demonstrate a linear relationship between socio-economic status and psychiatric hospitalization with $p = <.05$. The slope is negative indicating that as socio-economic status decreases, psychiatric hospitalization rates increase and as socio-economic status increase, psychiatric hospitalization rates decrease. The Pearson Correlations are $r = 0.11$ for parental involvement, $r = -0.40$ for socio-economic status and $r = 0.31$ for literacy all indicate correlation. From these data one can conclude that lower socio-economic conditions are positively related to adolescents being hospitalized for mental health issues. In relationship to psychiatric hospitalization of adolescents, the variable, parental involvement, has a low correlation, whereas socio-economic status and literacy both have moderate correlations according to the standards set by Laerd (2018). The correlations found between the dependent variable of psychiatric

hospitalization rates and the independent variables of socio-economic status and literacy skills are significant at $p = <.05$. This indicates that relationships exist between psychiatric hospitalizations rates of adolescents, socioeconomic status, and literacy rates. Table 7 summarizes these results.

Table 7

Correlations of Predictor Variables Question Three

	HOSP	PI	SES	LIT
HOSP	1.00			
PI	.10	1.00		
SES	.40	.22	1.00	
LIT	.31	-.05	.62	1.00

To test the assumptions of the MRL a variety of analyses were conducted. Linearity was found by use of a scatterplot, which also indicated homoscedasticity through the variables represented in straight lines on the graph. Multicollinearity was assessed through tolerance and VF, which were greater than .01 and less than 10 respectively. There were no Studentized deleted residuals higher than ± 3 , and no leverage points higher than .02. No outliers were detected. The assumption of normality was met upon visual inspection of the P-P plot, which displayed a linear presentation of the variables.

Summary

It was determined by the three analyses that not all variables had a clinically significant linear relationships or correlations between the dependent and independent variables. Statistically significant linear relationships were found between the predictor variable of socio-economic status and the predicted variables of both graduation rate and psychiatric hospitalization rate. The dependent variable of psychiatric hospitalization rate had linear relationships with all three dependent variables. Correlations were found between all three dependent variables and the independent variables of socio-economic status and literacy. These correlations suggest impacts on the dependent variables by socio-economic conditions and literacy skills.

CHAPTER V DISCUSSION

Summary

The purpose of the current research was to determine whether there were relationships between the independent variables of parental involvement, socio-economic status, and literacy skills with the dependent variables of high school graduation rates, juvenile incarceration rates and psychiatric hospitalization rates for Mississippi adolescents. This chapter includes a discussion of the salient findings of the current research, implications of use by educators, mental health professionals, juvenile justice workers, and community leaders, recommendations for practical use and future research as well as the limitations of the study.

Prior to the current research, a significant relationship was expected to be found between the independent variables of literacy skills, parental involvement and socio-economic status with the dependent variables of high school graduate rate, juvenile incarceration and psychiatric hospitalization rates for adolescents. From the literature review, it was found that parental involvement, socio-economic status, and literacy skills are areas that impact adolescent's academic and personal lives. Adolescents who do not perform well academically, may be introduced to delinquent behaviors; may have emotional and behavioral disorders; or may be more likely to engage in at-risk behaviors (Darney et al., 2013). The relationships found between juvenile incarceration and literacy skills in the present study are concerning, because academic problems, evidenced by reading problems, appear to be contributing to adolescents

pursuing criminal pursuits. In addition, the outcomes of risky behavior or criminal conduct in youth may have life-long consequences for adolescents. A further concern is the impact of isolation, which occurs in both detention and psychiatric hospitalization. Although the purpose and reasoning may be different, some hospitals that treat adolescents with mental health concerns report locking patient room doors at night (Listenbee, 2014). In this study relationships were found with all three independent variables and psychiatric hospitalization. Adolescents deserve opportunities to succeed without negative outcomes and determining the issues that predict negative outcomes may prove to be life altering. Previous studies have found that failure in academics, difficult relationships with parents, and exposure to crime have led to negative outcomes.

Parental involvement is important for adolescent success, but often there are interferences that prevent optimal involvement (LaRocque et al., 2011). Lack of parental involvement in school could lead to other areas of concern in the community or at home. Failure to progress in school and low socio-economic status were found to contribute to juvenile delinquency. Adolescent years are a particularly important time for parental involvement in school (Wallace, 2016). According to the current research, the lack of parental involvement, specifically in school, is linked to higher incidence of psychiatric hospitalization for adolescents.

Poverty is a concern in many aspects for adolescents, but particularly in relationship to the opportunities provided for success. Higher incidence of mental health problems is found with long-term poverty (Dashiff et al., 2009). Academic and mental health concerns have been found to go unmet, because of the effect of poverty (Abel & Vignola, 2010). It is logical to conclude that poverty influences an adolescent's academic and personal success. The present study

indicated that adolescents are less likely to graduate if they are in lower socio-economic conditions.

Literacy is necessary for success in many aspects of adult life and begins with education. Prior research found that the majority those with mental illness read at grade levels substantially below the average of their peers (Lincoln et al., 2017). It was also previously determined that literacy is significantly related to incarceration, failure to graduate from high school, and the necessity for mental health treatment (Barnett et al., 2015). The literature reviewed for this study showed that there are multiple reasons to suspect relationships between parental involvement, literacy, socio-economic status, graduation rates, incarceration rates, and psychiatric hospitalization rates. The literature supported further investigation into the relationships between these variables. The current study found that literacy has a correlation with failure to graduate, higher incidence of both incarceration and psychiatric hospitalization of adolescents.

Discussion of Findings

The outcome variables of high school graduation rates, juvenile incarceration rates, and psychiatric hospitalization rates for Mississippi adolescents were found to have relationships with the predictor variables of parental involvement, socio-economic status, and literacy skills. Although all of the dependent variables did not have a linear relationship with each of the independent variables, there were meaningful relationships demonstrated through the current research.

The first research question addressed the dependent variable of high school graduation rate. The results of the multiple regression analyses found that socio-economic status was the only independent variable with a linear relationship to high school graduation rates. The data interpreted from the coefficients implies that graduation rates may be predicted by socio-

economic status. The data specifically supports that as socio-economic status decreases, failure to graduate increases. This has implications that concerning the outcomes and future for the adolescents. Although the regression analysis did not indicate linear relationships between graduation rate and the other dependent variables, there were correlations with both socio-economic status and literacy. These correlations are not the same as a causal relationship; however, there relationship leads to a conclusion that the research suggests that there is an impact on graduation outcomes as associated with literacy proficiency and socio-economic factors.

For the dependent variable of juvenile incarceration, the independent variables were not significant. This does not necessarily mean that there is no relationship between incarceration and the predictor variables. The absence of significance does not necessarily indicate a lack of practical importance (Vakhitova, & Alston-Knox, 2018). Because there were no predictive linear relationships discovered for the independent variables with this dependent variable, there may be other variables that contribute more to juvenile incarceration than the ones chosen for study. The correlation coefficients indicate a moderate relationship between incarceration and both literacy and socio-economic status. It is possible that it is a non-linear relationship. The moderate level of correlation between incarceration and socio-economic status and literacy warrants further study of the relationship of these variables. This provides an area to further the current research, or explore different areas of the same basic concepts.

The final dependent variable of psychiatric hospitalization rates for adolescents has a linear relationship with socio-economic status. Although the linear relationships between of psychiatric hospitalization and literacy and parental involvement were not identified through the coefficients, there were correlations ranging from mild to moderate for all three independent

variables. Parental involvement had the lowest correlation. This does not mean that parental involvement is not important, nor does it discount the positive contribution of parental involvement. Literacy and socio-economic status both had moderate levels of correlation. The impact of literacy and socio-economic advantage or disadvantage in some way influences the need for psychiatric hospitalization for adolescents. The fact that relationships have been found to exist provides a platform for future research.

In totality the three multiple regression analysis provided useful information regarding outcomes for at-risk youth in Mississippi. The expected outcomes were that lower socio-economic status, literacy deficits, and lower levels of parental involvement would be related to decreased high school graduation rates, increased juvenile detention incarcerations and increased psychiatric hospitalizations for Mississippi adolescents. High school graduation rates had relationships with all three independent variables; however, not all were linear or significant. Psychiatric hospitalization rates had either a correlation or linear relationship with all independent variables. Juvenile incarceration rates had relationships with literacy and socio-economic status; however, no relationships were identified for parental involvement. All of the outcomes were as expected except the lack of clear relationships with parental involvement. These results should prompt future research that investigates the factors that create these relationships and what types of interventions might diminish the effects of socio-economic status and deficit literacy skills on these outcomes.

The data for this research provides useful information for school counselors, specifically those in rural areas, to create and support programs for student success. Specifically, school and community counselors may partner with other mental health and juvenile justice personnel to create collaborative programs to improve graduation rates for adolescents who are at-risk of

school failure due to literacy skills deficits and/or poverty and low levels of socio-economic resources. Programs that address these problems might target those issues that contribute to the psychiatric hospitalizations that result from development of behavioral and emotional disturbance in adolescents. In areas with adolescents who live with lower socio-economic resources have less opportunities and experience; therefore, they struggle academically and sometimes socially to adjust. These struggles lead to less academic and social success and ultimately result in difficulties in successful high school graduation, self-management, and possibly mental health concerns.

There were many research articles from the literature review that the current research supports. The current finding of socio-economic status as significant to high school graduation rates supports the research by Duncan and Magnuson (2017), which indicates that poverty has a negative impact on school performance. Strong (2017) also found that those with lower socio-economic status are less likely to graduate than their economically advantaged peers. Additionally, research by Pan (2016) stated that those with lower socio-economic conditions are more likely to be hospitalized for bipolar disorder. The current research supports this with the result that youth psychiatric hospitalization has a relationship with lower socio-economic status.

Implications

The practical implications of the current research is that educators, mental health professionals, and juvenile justice workers may use this data to make decisions for planning and implementing future programs for adolescents. Schools leaders may use the data to help secure additional funding for lower income schools. Educators may use the research to implement new local policies on literacy specifically in areas where students from lower income communities are served. Counselors in school settings may use the research to create local school programs to

promote academic achievement, coping strategies for struggling students, and to seek both resources and support for students served in lower income areas. Mental health professionals may use this information to encourage parental involvement and school success to promote more positive outcomes for adolescent clients. Juvenile justice programs may also use the data to promote programs for prevention and diversion in lower income neighborhoods. Additionally, community members and parents may use this information to learn more about how to help the adolescents in the home and community. Collectively, all of those who serve adolescents may use this research to provide collaborative services and bridge the gaps between service providers.

Recommendations

It is recommended that this research be used to implement programs in both rural and non-rural locations of Mississippi and other similar areas to provide interventions for adolescents in lower socio-economic areas. Graduation promotion and dropout prevention programs are supported by the research. Additionally, prevention programs to deter juvenile delinquency in lower socio-economic areas are needed. Preventative mental health programs and additional outpatient programs are encouraged to decrease hospital admission needs. Initiation of community bases collaborative programs for prevention of at-risk behaviors in students is encouraged. Policy changes and legislative action to secure public funding and ensure implementations of such programs is recommended.

It is also recommended that additional research be conducted. Specifically, regarding parental involvement, using a smaller group of schools with a different method of gathering data. Much of the data used in the current research could be considered stable, however, more stable data are desirable for parental involvement. A survey for the district school personnel, students, teachers and parents would likely prove beneficial and yield different results. Limiting the

number of districts and possibly using individual student samples for the selected districts could provide a meaningful study.

For future research on this topic, additional approaches could yield more specific results. If additional research is performed on this same topic and variables, a larger sample including multiple years, is encouraged.

Additionally, some of the variable information could be expanded. For example, the researcher could survey parents from specific school districts. Information could be obtained through survey of professional mental health providers for privately owned institutions to be included in research. More detailed information could be obtained with permission on the variables. Options for statistical testing and interpretation could be explored as well.

The current research provides a platform to expand future research. There is enough evidence in the literature review and results of the current research analysis to encourage future research on relationships between parental involvement, literacy skills, socio-economic status, high school graduation rates, juvenile incarceration rates, and adolescent psychiatric hospitalization rates. Additionally, the current study prompts research on how the dependent variables affect the other. For example, a potential topic of future research is the effects of incarceration and psychiatric hospitalization on high school graduation rates. Subsequently, the effects of graduation or failure to graduate, on incarceration or psychiatric hospitalization would be beneficial research as well. There are numerous opportunities inspired by the current study. Once again, there is a platform to pursue future research in this area.

Limitations

The current research is not without limitations. This study includes data that were previously collected and archived. The global data are aggregated and not from individual cases.

The data are from 2017-2018, and it includes only adolescents from Mississippi. Much of the data are from Mississippi public schools and does not include private, independent, or BIE schools or home schools. Public institutions providing services were also used for psychiatric hospitalization data, and it does not include private treatment facility data not reported to the state. The data are limited to Mississippi adolescents, which could make it difficult to generalize to areas not similar demographically or culturally. The sample size, while adequate for the study, was limited to a random sample, and after narrowing to appropriate cases was a smaller sample. Time is a limitation, as there was not unlimited timing available for the study. Lack of resources and literature on the specific data needed is also a limitation for the current research.

Conclusions

Socio-economic status and literacy have been found to have an effect on outcomes for adolescents. In other research parental involvement had a greater consequence in lower socio-economic schools (Bower & Griffin, 2011). The current research found non-significant values for the relationship between juvenile incarceration rates, parental involvement and socio-economic status and literacy skills; however, correlations were found suggesting relationships. The current research found a significant relationship between socio-economic status and high school graduation rates, which are a result of achievement. Although the results were not statistically significant, there is research that there is an effect of socio-economic status on incarceration and psychiatric hospitalization. This is consistent with research from the literature review of this study. Literacy proficiency although not significant statistically suggest a relationship to graduation, psychiatric hospitalization, and incarceration of adolescents.

Additional research is encouraged that includes more specific approaches to data collection and analysis. Research that is focused on specific groups of at-risk adolescents and

those variables that characterize them is encouraged. School officials, community leaders, or mental health personnel, need justification to develop programs that offer programs for adolescents in lower socio-economic areas to assist with improving graduation rates and decrease psychiatric hospitalizations and juvenile incarceration rates.

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