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The Effect of Family and Social Support on Suicidal Ideation in Jails

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THE EFFECT OF FAMILY AND SOCIAL SUPPORT ON SUICIDAL IDEATION IN JAILS

by

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ABSTRACT

Suicidal ideation and associated behaviors are up to four times more common among jail inmates than the general community (Jenkins et al., 2005; Hayes, 1986). Research finds a variety of social, biological, and psychological factors interact to influence suicidal thoughts of incarcerated individuals (Bonner, 1992; Borrill et al., 2005). Particularly, psychological distress, such as depression and feelings of hopelessness, along with loss of social support and decreased feelings of connectedness, have been linked to suicidal ideation and behaviors (Moscicki, 1997; Hawton & van Heeringen, 2009). Recently, the Centers for Disease Control and Prevention (2017) has emphasized the importance of connectedness for suicide prevention. Feelings of loneliness and isolation are of particular concern among jail inmates. These factors have been linked to disproportionate rates of suicidal ideation or participation in suicidal behavior among inmates relative to community populations (Biggam & Power, 1997, Chapman et al., 2005, Ivanoff & Jang, 1991, Jenkins et al., 2005, Palmer & Connelly, 2005; Larney et al., 2012; Liebling, 1992, Marzano et al., 2011; Suto & Arnaut, 2010). Using longitudinal data collected from newly incarcerated jail inmates, the current study examines the impact family, social support, and connectedness have on suicide risk and ideation amongst jail inmates. Study findings have potential implications for policy and practice to better identify and manage suicide risk within jail settings.

DEDICATION

This thesis is dedicated to my husband, Craig, and my parents, Anna and Walter, for their unwavering support.

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INTRODUCTION

Suicide is a growing concern in the United States. As of 2017, suicide was the 10th leading cause of death in the country with 47,173 reported suicide deaths and another 1.4 million suicide attempts (American Foundation for Suicide Prevention [AFSP], 2017). Suicide rates have increased from 2008 to 2017, going from 11.6 suicides per 100,000 to 14 per 100,000, marking this as a rising epidemic (AFSP, 2017). Multiple studies have found rates of suicide to be disproportionately high in jail settings; as much as three times higher than the general community (Hayes, 2010, 1986; Mumola, 2005; Mumola & Noonan, 2008). In addition, suicide rates in jails are also typically two to three times higher than the suicide rates in prisons (Mumola, 2005).

Most of the existing suicide research on incarcerated populations analyzed data from prisons and found that feelings of loneliness are a significant contributor to suicide, and relationship issues with family or spouse contribute to suicidal ideation (Suto & Arnaut, 2010). In the United States, two studies were performed by Lindsey Hayes in 1986 and 2010. These studies provided critical insight on the prevalence of suicide and suicide risk in jails. In his original study, Hayes (1986) found that half of inmate suicides occurred in the first 48 hours of incarceration. In performing the 20-year follow-up, Hayes (2010) found that only a quarter of suicides occurred in the first 48 hours, with another quarter of suicides happening in the first 2-14 days of incarceration. These findings indicate that inmates are at an increased suicide risk beyond the first 48 hours, which had been emphasized due to the 1986 report. His later report identified the first two weeks of incarceration as critical for prevention and intervention efforts.

In the follow-up report, Hayes (2010) identified a multitude of predictors that predisposed jail inmates to higher suicide risk. Significant risk factors included recent drinking or substance use, mental illness, and prior suicidal tendencies and behaviors. Hayes' follow-up study is not the only one to find a relationship between prior suicidal tendencies and current suicidal ideation. Palmer and Connelly's (2005) prison study found that inmates with a history of self-harm not only scored higher on the Beck Scale for Suicide Ideation, but also presented a heightened risk of suicide in the first 48 hours, more so than inmates without a self-harm history.

Social and family support have been identified as an important factor in preventing suicide both in the general community and in incarcerated populations (Cherry, 2018; Jenkins et al., 2005; Suto & Arnaut, 2010; Kupers, 1999; Biggam & Power, 1997). Multiple studies have found a connection between a lack of social support with higher risk of suicidal ideation or suicidality in prisons and jails (Jenkins et al., 2005; Suto & Arnaut, 2010; Kupers, 1999). Strong social support can also serve as a protective factor, as social support can help individuals to cope and adjust with difficulties faced while incarcerated (Biggam & Power, 1997). Additional research in prison settings identified social exclusion – an obvious aspect of incarceration – as a factor that may lead to feelings of hopelessness, which research also identified as an important suicide predictor in clinical settings as well as prison (Beck et al., 1989; Palmer & Connelly, 2005; Chapman, Specht, & Cellucci, 2005; Jenkins et al., 2005).

In relation to social and family support, connectedness is frequently found to be a strong protective factor against suicide both in the general community and in incarcerated populations (CDC, 2010; Liebling 1992, 1999). Connectedness occurs in any type of relationship, including but not limited to other individuals, families, cultural groups, organizations such as churches, and society as a whole (CDC, 2010). Liebling (1992, 1999) identified various factors that promoted

connectedness and decreased suicide risk in inmates. For example, visitation and communication with friends and family protected individuals from suicidality, due to the ability to maintain positive relationships with loved ones outside the facility (Liebling, 1992). Additional research on visitation found inmates with visitors were less likely to be rearrested upon release and that visitors eased the burden of separation felt by inmates (Holt & Miller, 1972; Acevedo & Bakken, 2001).

Most suicide research has occurred in prisons and on the general population, with Hayes' (1986, 2010) studies being one of the few to focus on jails and newly booked inmates. Further, studies on the effects of visitation and contact with friends and family members through phone calls and letters is limited and have primarily been conducted in prisons (Connor & Tewksbury, 2015). The current study seeks to bridge the gap between these complex subjects by analyzing the effect of family and social support through contact within the facility such as face-to-face visits, phone calls, and letters, on suicide in the jail setting. Since jail suicides outweigh prison suicides 46 per 100,000 to 15 per 100,000 (Chammah & Meagher, 2015), it is vital that this research occurs in jails, not just in prisons.

LITERATURE REVIEW

There are many theories that attempt to explain why suicide rates are greatest in jails than in the general population. Most notably, research suggested the jail environment is more conducive to suicidal behavior because of the feelings of hopelessness created by being initially incarcerated (Ivanoff & Jang, 1991; Palmer & Connelly, 2005; Jenkins et al., 2004). Additionally, research found that upon initial incarceration, jail inmates were typically experiencing heightened distress (Chammah & Meagher, 2015). Chammah and Meagher (2015) mentioned this shock came from an individual being stripped of their job, housing, and their notion of normalcy is drastically changed. Many elements of the jail environment can be conducive to suicidal behavior in the inmate's mind such as fear of the unknown, the lack of control, social stigma and shame of incarceration, the authoritarian environment, and perceived dehumanization (Hayes, 2010). There are several factors prevalent amongst inmates in crisis that could possibly predispose them to suicide such as recent excessive drinking or substance use, a recent loss of stabilizing resources such as family or income, mental illness, and a prior history of suicidal behavior, and (Hayes, 2010). Family and social support play a large role in increasing an individual's feelings of connectedness since the strength of positive relationships with family members and friends makes individuals feel more connected to their community (CDC, 2010).

Substance Abuse

Alcohol and substance abuse were identified as a predictor of suicide in inmate populations (Hayes, 1986, 2010). Hayes (1986) found 60% of suicide victims in jails were intoxicated at the time of incarceration, while 82% of victims in holding facilities were intoxicated at the time of incarceration. Additionally, Hayes (2010) found 47% of suicide victims had a history of substance abuse (Hayes, 2010). There was no information available on the

substance use history of approximately 35% of all suicide victims, implying a possibility that more than 47% of victims had a history of substance abuse, or suggesting that intake at facilities was inadequate in providing this information for many victims (2010).

Mental Illness

Mental health is one of the most commonly studied predictors of suicide risk in both the general population and in incarcerated populations (Beck et al., 1989; Beck et al., 1974; Birmingham et al., 1996; Blaauw et al., 2005; Chapman et al., 2005; Coid et al., 2002; Donald et al., 2006; Jenkins et al., 2004), since mental illness such as depression or related feelings of hopelessness have been linked to suicide (Beck et al., 1989; Beck et al., 1974; Birmingham et al., 1996; Blaauw et al., 2005; Chapman et al., 2005; Coid et al., 2002; Donald et al., 2006; Jenkins et al., 2004). While mental health issues such as depression can lead to suicide, social disadvantage (Howard League for Penal Reform, 1999) and social exclusion (Jenkins et al., 2005) can predispose prisoners to depression and feelings of hopelessness (Beck, Weissman, Lester, & Trexler, 1974). Hopelessness is defined as pessimism or negative attitudes about the future, or isolation from the outside world and within jail (Chapman et al., 2005). Feelings of hopelessness are frequently identified as the most important factor relating to suicide in clinical and prison settings and are heavily linked to prison suicide risk (Beck et al., 1989; Palmer & Connelly, 2005; Chapman, Specht, & Cellucci, 2005).

Hayes (2010) estimated that more than 90% of suicides in the general population are associated with mental illness or addictive disorders and that about two-thirds of suicide victims were depressed at the time of their death. Hayes (2010) additionally found approximately 38% of suicide victims had a history of mental illness; however, no information was available about the mental illness histories for 30% of all inmate suicide victims. This finding was in line with

Hayes' previously noted lack of information on inmate substance abuse histories, suggesting inadequate and limited intake screenings in the facilities of which the suicides occurred (Hayes, 2010).

Palmer and Connelly (2005) found that inmates with a history of self-harm were more likely than those without to score higher on the Beck Hopelessness Scale, the Beck Depression Inventory-II, and the Beck Scale for Suicide Ideation. The study additionally noted that inmates with elevated scores and a history of previous self-harm typically reflected heightened vulnerability during the first 48 hours of imprisonment (Palmer & Connelly, 2005). Moreover, Palmer and Connelly (2005) noted that those individuals with a history of suicidal behavior and/or self-harm may lack coping mechanisms to deal with the initial stress as well as being more likely to exhibit feelings of hopelessness. This study stressed the importance of analyzing factors that do not necessarily predict suicide directly but may correlate with suicidal ideation and conditions such as depression and hopelessness (Beck et al., 1989; Beck et al., 1974; Birmingham et al. 1996; Coid et al. 2002).

While the higher rates of depression and other psychopathologies in inmates (Gunn et al. 1991; Birmingham et al. 1996; Coid et al. 2002) may sound like the obvious reason for the higher suicide rates, these psychopathologies may not be solely to blame. In a three-year qualitative study on prisoner vulnerability, Liebling (1995) found many inmates had poor coping skills which were worsened during incarceration. The lack of coping skills was cited as being the reason for many inmate suicides, rather than the mental illnesses themselves (Liebling, 1995). Prison staff included in the study reported inmates most commonly suffered from an inability to cope with bullying and prison life and emotional problems such as depression, whereas medical

problems such as mental illness were only mentioned in inmate interviews for less than 8% of cases (Liebling, 1995).

Previous Suicidal Behavior

In addition to history of mental illness, research linked history of suicidal behavior to greater suicide risk in jails (Hayes, 1986, 2010; Blaauw, Kerkhof, & Hayes, 2005). A meta-analysis conducted by Blaauw, Kerkhof, and Hayes (2005), of 19 primary studies suggested approximately 47% of individuals who committed suicide in jail previously attempted suicide. Hayes' (2010) results supported these findings, with 33.8% of jail suicide victims reporting a history of suicidal behavior. While this identifies a key factor that can potentially predict suicide risk, Hayes (1986) found 89% of suicide victims were not screened for potential suicidal behavior upon booking and 97% of suicide victims at holding facilities were also not screened for potential suicidal behavior at booking. Previous suicidal history is important to include in this research because it can affect policy implications. By knowing that inmates struggled previously with suicidal ideation, or attempted suicide before, facilities can use this knowledge to watch inmates with prior reported suicidality more closely to prevent future ideation and attempts.

Family and Social Support

Family and social support have been consistently linked to psychological health (Cohen & MacKay, 1984; Sarason, Sarason, & Pierce, 1990) and further research has also found supportive relationships with others can significantly lower the risk of psychological distress in regard to stress exposure (Cohen & Wills, 1985; Turner, 1983). Social support refers to the perception and reality that one is cared for, has available assistance from others, and that one is part of a social network (Cherry, 2018). This essentially involves having a network of family and friends that one can turn to in a time of need, whether it be a crisis requiring immediate help or

just wanting to spend time with the people that care about you (Cherry, 2018). Poor social support has been linked to an increase in risk for depression, suicide, and substance abuse (Cherry, 2018; Jenkins et al., 2005). Cherry (2018) stressed the importance of actively participating in relationships with friends and family to increase support, referred to as social integration. Social integration refers to the participation in social support and includes activities that simply include being around loved ones, ranging from romantic partnerships to friends and is suggested to provide protection from maladaptive behaviors (Cherry, 2018). Family support has been found to teach children how to foster social relationships (Cherry, 2018). Additionally, research found a lack of family support early on in a person's life may impair their social relationships and level of social support in the future (UNC School of Social Work, n.d.).

Multiple studies have found that lack of family and social support lead to a greater likelihood of suicidal thoughts and behaviors (Jenkins et al., 2005; Suto & Arnaut, 2010; Kupers, 1999). Jenkins and colleagues (2005) found key social factors associated with suicide in the general public were measures of social disadvantage and social exclusion, all of which occur more frequently in incarcerated populations. Jenkins and colleagues (2005) mentioned that prisons contain "the most socially deprived groups in the country" due to the fact that prisons, as a practice, act as "a filter for social ills" (p. 258), meaning inmates may lack social connectedness prior to incarceration. This lack of social connectedness may be made worse by incarceration. Further, this study found prisoners who had suicidal thoughts in the past week, year, or over their lifetime were more likely to report having small primary support groups and severe lack of social support (Jenkins et al., 2005). A similar study performed by Suto and Arnaut (2010) conducted in-depth, one-on-one interviews with inmates who had previously attempted suicide. Inmates reported that loneliness and isolation from both the outside world and

within the prison were significant factors that contributed to their suicide attempt. Several inmates further indicated that termination of their romantic relationships outside of prison added to their suicidal ideation (Suto & Arnaut, 2010). Kupers (1999) also found through interviewing inmates that relationship issues such as verbal or physical fights both inside and outside of prison were connected to increased suicide risk.

Social support is also important in adjustment to incarceration (Biggam & Power, 1997). Biggam and Power (1997) noted that inmates used new social relationships to buffer stressors of incarceration and reported these supportive relationships significantly lowered risk of psychological disturbances as a reaction to stressors. These results showed that social support is not restricted to people inmates knew prior to being incarcerated. This study also found a link between problem-focused coping and social support as both are directed at changing or managing a stressful situation (Biggam & Power, 1997). This supported the argument that strong social support also improves coping mechanisms to assist in problem solving and adjustment (Biggam & Power, 1997).

Connectedness

Following the importance of having family and social support, the concept of connectedness expands on the importance of the different relationships in an individual's life. Feelings of connectedness have been found by the CDC (2010) to serve as a protective factor in preventing suicide in the general community. Connectedness refers to the degree to which a person feels socially close to family, friends, or groups, including family and social support, and lack of connectedness can come from social isolation (CDC, 2010). While connectedness includes family and social support, it also includes additional forms of support (CDC, 2010). Connectedness occurs on multiple social levels – connectedness between individuals, families,

and organizations such as schools, church, neighborhoods, cultural groups, and society in general (CDC, 2010). When all levels of connectedness were met with strong, positive relationships with other individuals such as friends or family, social support and participation were present (CDC, 2010). Additionally, social isolation was lowered, protecting from suicidality and reducing risk (CDC, 2010). In turn, the CDC's research also found that adolescents' connectedness to negative groups can increase suicidal behavior (2010). Connectedness between individuals increased social contact and relationships, as well as lowered isolation and loneliness and discouraged maladaptive coping mechanisms such as suicidal behaviors and substance abuse, helping to shift inmates towards adaptive coping behaviors like professional help seeking (CDC, 2010).

A focus on connectedness emphasized strengthening protective factors that in turn can lower suicide risk (CDC, 2010; Liebling 1992, 1999). Liebling (1992) identified protective factors that contributed to feelings of connectedness that mitigated against suicidal thoughts and behaviors including (a) the ability to regularly see friends and family through visitation and receiving their support; (b) constructive activities within prison; (c) support from other prisoners, prison staff, and probation officers; (d) support from prison visitors from other services; (e) having hope and plans for the future; (f) being in a system that has great inter-departmental communication; (g) and having professionally trained staff that are valued by their supervisors. All of these protective factors identified by Liebling (1992) increase an individual's feelings of connectedness to family, friends, and their community both inside and outside of the jail (CDC, 2010). The opposite effect can take place with decreased feelings of connectedness as well. Disrupted social networks, such as family disruption, problems with friends, and romantic relationships ending, can lead to an increased risk of suicide and suicidal behaviors (Donald, et al., 2006; Rubenowitz, et al., 2001; CDC, 2010).

In addition to feeling connected to friends and family, the CDC also stressed the importance in feeling connected to the community at large (CDC, 2010). A study performed by Folk and colleagues (2018) analyzed inmates' feelings of connectedness to the community at large. The authors found that inmates who reported feelings of depression tended to have decreased feelings of community connectedness in comparison to inmates reporting lower levels of depression (Folk et al., 2008). These results fall in line with connectedness research in the general community. The ability for persons to experience positive connectedness through close interpersonal relationships, families, and community organizations is a vital strategy in suicide prevention (CDC, 2010). The CDC's research emphasized the importance in distinguishing a focus on positive connectedness, which especially applies to incarcerated populations in which negative community involvements exist and can provide a person with negative connectedness (CDC, 2010). Not only does positive connectedness help to decrease an individual's suicide risk, but these connections help to remove social barriers to seek help by those in need, making individuals planning or contemplating suicide less likely to engage in such behavior (CDC, 2010).

As previously mentioned, Liebling (1992) found providing inmates regular visitations with friends and family to be a strong protective factor against suicide. A few other studies have found a positive impact of visitation on inmates' behavior when they receive visitors compared to inmates who do not receive visitors (Holt & Miller, 1972; Acevedo & Bakken, 2001). Holt and Miller (1972) followed minimum security male inmates 12 months after parole and found that 50% of the men with no visitors during their incarceration were rearrested within the first year of release, with only 30% of the men who had visitors rearrested. Acevedo and Bakken (2001) conducted a qualitative study that examined visitation effects on female inmates

exclusively and noted that receiving visits from friends, family, and especially children eased the burden of separation caused by incarceration. Since visitation is not always possible for many reasons, this study further noted that female inmates visited by a friend or family member who could update them on their child's health and well-being, even if the child could not be present, assisted in easing this separation burden as well (Acevedo & Bakken, 2001). Liebling (1992, 1999) identified visitations as a protective factor that promotes connectedness and in turn lowers suicidality. Through visits from family and friends while incarcerated, inmates could continue to maintain positive interpersonal relationships with people who could provide support, whether it be emotional or financial, from outside the facility (Liebling, 1992, 1999). Additionally, other forms of positive connectedness within the jail environment could help protect inmates from increased suicide risk, given that the relationships promoted positive behaviors (CDC, 2010; Liebling, 1992, 1999).

While the research on connectedness identified that feeling connected to friends, family, and the community at large work as a protective factor against suicide, prior research that examined the relationship between connectedness and suicide have primarily focused on prison settings. This is troubling, given the fact that jails experience suicides at a greater rate than prisons (Mumola, 2005). Given the highly stressful nature of jail environments and less access to resources and programs compared to prisons (Chammah & Meagher, 2015), it is critical to examine the impact of key factors – connectedness, social support, and mental health – on suicide ideations among jail inmates.

THE CURRENT STUDY

While research currently exists on the effect of family and social support on suicide in the general community (Cohen & MacKay, 1984; Sarason, Sarason, & Pierce, 1990; CDC, 2010; Cherry, 2018), there has been little research on the effects of these factors on suicide ideation and suicide in incarcerated populations. Prior research examined the effect of family and social support on feelings of hopelessness and depression, both of which were correlated with suicide (Biggam & Power, 1997; Chapman, Specht, & Cellucci, 2005; Jenkins et al., 2004, 2005; Sarason, Sarason, & Pierce, 1990), but this has not been examined within jail populations. Additionally, while research illustrated that connectedness can serve as an important protective factor against suicide in prison settings (Liebling, 1992, 1995), we know little regarding the relationship between connectedness and suicide and suicide risk in jail settings. This is problematic given the increased suicide risk in jails compared to prison (Hayes, 2010, 1985; Mumola, 2005).

The current study sought to bridge these gaps by analyzing the effects of family and social support and connectedness on suicidal ideation amongst newly booked inmates. This study examined four research questions: (1) This study's first research question will be: Does suicidal ideation change over the course of incarceration? (2) The second research question will be: What are the effects of visitation on suicidal ideation? (3) The third research question will be: What are the effects of remote contact on suicidal ideation? (4) The fourth and final research question will be: What are the effects of all family and social contact on suicidal ideation? By analyzing these research questions, the current study was able to make suggestions for future research and policy implications. Future research should focus on expanding to a larger sample including multiple facilities around the country and measure connectedness through content of visits and remote

contact, rather than just quantity of contact. Policy implication suggestions made by this study were giving jail staff initial and annual suicide risk assessment training and performing initial and recurring risk assessment on inmates until released.

METHODS

Study Site

The data for this study came from a longitudinal pilot project conducted in the Walker County Jail in Huntsville, Texas, from June 2016 to June 2017. The Walker County Jail is in Walker County, TX, which has a population of 67,861 people. Walker County is 69.12% white, 23.88% black, 0.35% Native American, and 5.24% other races. The median age is 31 years old and for every 100 females, there are 151 males. The Walker County Jail represents a small, rural jail with a total of 162 beds housing both adult male and female inmates. In Walker County, the Department of Public Safety, Huntsville Police Department, and Sam Houston State University Police Department booked individuals into the jail at the time of this study.

Sample

The sample consisted of 31 newly booked inmates in the Walker County Jail from June 2016 to September 2016. Out of the 31 inmates from Walker County Jail, the average age was about 34 years old, 93.5% (*n*=29) male, and 42.5% (*n*=14) black. In the sample, 74.3% (*n*=23) completed high school and 67.7% (*n*=21) were single and never married. Further, 83.9% (*n*=26) of the sample had been previously incarcerated in jail, 32.3% (*n*=10) had previously been incarcerated in a state prison, and 3.2% (*n*=1) had been previously incarcerated in a federal prison.

TABLE 1

Descriptive Statistics (N=31)

Characteristic	M or % (*n*)	SD	Min	Max
Age	33.74	11.19	19	62
Gender				
Male	93.5% (29)	-	-	-
Female	6.5% (2)	-	-	-
Race				
Black	45.2% (14)	-	-	-
White	38.7% (12)	-	-	-

Native American	3.2% (1)	-	-	-
Other	9.7% (3)	-	-	-
Education Level				
Graduated high school	74.3% (23)	-	-	-
Did not graduate high school	25.8% (8)	-	-	-
Marital Status				
Single/never married	67.7% (21)	-	-	-
Married	9.7% (3)	-	-	-
Separated	3.2% (1)	-	-	-
Divorced	19.4% (6)	-	-	-
Previous Incarceration				
Incarcerated in jail	83.9% (26)	-	-	-
Incarcerated in state prison	32.3% (10)	-	-	-
Incarcerated in federal prison	3.2% (1)	-	-	-

Data Collection

Data was collected through surveys conducted interview-style by trained researchers in a one-on-one setting with inmates. The surveys took approximately two to four hours each. There were two surveys for this project; the baseline survey conducted at booking and a follow-up survey conducted over the course of the stay at the Walker County Jail. The baseline survey measured key areas including participant demographics, perceptions of procedural justice, attitudes toward authority, mental health, environment, suicidal thoughts, tendencies, and history, and criminal and juvenile history. All participants in the current study received the baseline survey within the first 24 hours of booking into the jail. The follow-up survey included measures about navigating the jail system and experiences while incarcerated (including visitation) as well as perceptions on the jail environment, safety, stability, suicidality, and mental health. Participants in the current study were invited to complete the follow-up survey once a week for the first six weeks of their incarceration and monthly thereafter. For the current study, the baseline survey was used for demographic data, suicidal history, and a baseline measure of current suicidality. Data on current suicidality and contact with family and friends were taken from the one-week follow-up survey. Follow-up data after the first week was not used due to

significant attrition. While the baseline survey had 71 participants, the first week follow-up had 31 participants, and the second week had 19 participants. This pattern of attrition continued through the remaining follow-up surveys.

Dependent Variables

In this study, the dependent variable was recent suicide ideation. Recent suicide ideation was measured with the following questions from the follow-up interview: "Over the past week since our last interview, have you had thoughts that life is not worth living?" and "Can I ask whether you have, over the past week since our last interview, any thoughts of hurting or harming yourself?" The answer options for both were yes or no, with yes coded as 1 and no coded as 0. An indicator variable was made to indicate an affirmative response to either question related to suicidal ideation, with 1 indicating ever reporting thoughts that life is not worth living or of hurting or harming yourself and 0 indicating no reported suicide ideation. Approximately 23% (*n*=7) of the sample reported having suicide ideations during their first week incarcerated at the Walker County Jail (see Table 2).

TABLE 2

Dependent Variable Descriptive Statistics (N=31)

Characteristic	**% (*n*)**
Recent suicide ideation	
Yes	22.6% (7)
No	77.4% (24)

Independent Variables

This study's primary independent variable was family and social support. Family and social support was measured three ways: via in-person visitation, remote contact via telephone and/or mail, and a measure of both in-person and remote contact. Visitation was measured with the following questions from the follow-up interview: "Over the past week since our last interview

did you receive any visits?" and "During the past week, how often did your friends visit you?" For the first question, participants were asked if they received visits from the following people: spouse/significant other, parents, children under 18, children 18 and over, and other family members. For the second question, participants were also asked how often their friends visited them with the following scale: never (0), once (1), less than once per month (2), once per month (3), 2-3 times per month (4), once per week (5), a few times per week (6), and every day (7). All options for both questions were summed into a total score variable and recoded into a dichotomous variable with "yes" coded as 1 for receiving any visits from friends and family or "no" coded as 0 for not receiving any visits. Across the sample, 35.5% (n=11) of participants reported receiving a visit from family or friends (see Table 3).

Remote contact was measured with the following questions from the follow-up interview: (1) "Over the past week since our last interview did you receive any letters or correspondence from family members?"; (2) "Over the past week since our last interview did you make or receive any phone calls?"; (3)"During the past week, how often did you receive letters from your friends?"; (4) "During the past week, how often did you speak on the phone with your friends?" Participants were also asked how often they received letters or phone calls from family or friends on the following scale: never (0), once (1), less than once per month (2), once per month (3), 2-3 times per month (4), once per week (5), a few times per week (6), and every day (7). All five items were summed into a total score variable and recoded into a dichotomous variable with "yes" coded as 1 for receiving any letters or phone calls from friends and family or "no" coded as 0 for not receiving any letters or phone calls from friends and family. Approximately 52% (n=16) of the sample reported receiving remote contact from family and/or friend (see Table 3).

Next, the visitation variable and the remote contact variable were combined into a single measure to capture all contact (in person and remote) from family and friends. The all contact variable was made dichotomous, with 1 indicating receiving contact from friends and family, and 0 indicating not receiving contact from friends and family. In the sample, 93.5% (*n*=29) received contact from friends and family members during the study period (see Table 3).

Past suicide ideation was measured by the following questions from the baseline interview: "Have you ever in your lifetime had thoughts that life is not worth living?" and "Can I ask whether you have ever in your life had any thoughts of hurting or harming yourself?" An indicator variable was created to indicate an affirmative response to either question measuring past suicide ideation. Respondents could answer yes coded as 1 or indicating the respondent had experienced suicidal ideation in their life or no coded as 0 indicating they had not experienced past suicidal ideation. In the current sample, 35.5% (*n*=11) had previously experienced thoughts that life was not worth living or thoughts of hurting or harming themselves before in their life (see Table 3).

Additionally, demographic information previously presented was used as additional independent variables to determine demographic differences among the dependent variable. The additional independent variables were age, race, gender, education level, and marital status. Age was measured by asking participants: "How old are you?" The number reported by the participant was recorded. The average age of respondents in this study was 34 years old (see Table 1). Race was measured by the following question: "Which of the following group or groups represents your race?" Answer options were black or African American (1), white or Caucasian (2), Asian or Pacific Islander or Southeast Asian (3), Native American (4), Middle Eastern (5), or other (6). The most prevalent race group in the sample was black at 42.5% (*n*=14) (see Table 1). Gender was

measured by the following question: "Do you identify as:" male (1), female (2), or other (3) as the answer options. Most of the sample was male (93.5%, *n*=29) (see Table 1).

Education level was measured by the following question: "Did you graduate from high school?" The answer options were "yes" coded as 1, or "no" coded as 0. Approximately 74.3% (*n*=23) of the sample reported completing high school (see Table 1). Marital status was measured by the following question: "What is your marital status?" The answer options were never married or single (1), legally married (2), separated (3), divorced (4), or widowed (5). In the sample, 67.7% (*n*=21) of participants were single and never married (see Table 1).

TABLE 3

Independent Variable Descriptive Statistics (N=31)

Characteristic	**% (*n*)**
Visitation	
Yes	35.5% (11)
No	64.5% (20)
Remote contact	
Yes	51.6% (16)
No	48.4% (15)
All contact	
Yes	93.5% (29)
No	6.5% (2)
Past suicide ideation	
Yes	35.5% (11)
No	38.7% (12)

ANALYTIC PLAN

First, descriptive analyses were conducted for all dependent, independent, and control variables in the study. A chi-square test was used to explore differences among the demographic

variables (age, gender, race, education level, prior incarceration, and marital status) on each nominal dependent and independent variable, which included recent suicide ideation, visitation, and remote contact. Next, bivariate analyses were conducted to explore the four main research questions.

The first research question the study addressed was: "Does suicidal ideation change over the course of incarceration?" To examine the first research question and measure suicidality over time, a McNemar's test was used to examine past suicide ideation from the baseline interview with recent suicide ideation from the follow-up interview. A crosstabulation was also used to measure how suicidal ideation changed over the course of the first week of incarceration.

The second, third, and fourth research questions the study addressed were: (1) "What are the effects of visitation on suicidal ideation?" (2) "What are the effects of remote contact on suicidal ideation?" and (3) "What are the effects of all family and social contact on suicidal ideation?" To examine these research questions, a Fisher's exact test was conducted to analyze the relationship between visitation and recent suicide ideation, remote contact and recent suicide ideation, and all contact and recent suicide ideation. This test was appropriate because visitation, remote contact, all contact, and suicide ideation were dichotomous variables.

RESULTS

A chi-square test of independence was used to measure the relationships between age, gender, race, education level, marital status, and prior incarceration in jails and prisons with recent suicide ideation (see Table 4). The same tests were performed between these demographic measures and visitation, remote contact, all contact, and past suicide ideation (see Table 5 & 6).

A significant relationship was found between age and recent suicide ideation, in that inmates over the age of 40 years were more likely to report recent suicide ideation, x^2 (1, N=31)=4.637, p=0.031 (see Table 4). No other significant findings between age and other variables were found.

Gender had a significant relationship with all contact, finding that male inmates were more likely to receive some form of contact, whether visitation or remote contact, than women, x^2(1, N=31)=6.718, p=0.010 (see Table 5). There were no other significant relationships between gender and the other variables. In addition, race, education level, marital status, and prior incarceration in jails or prisons had no statistically significant relationships with any of the dependent or independent variables (see Tables 4, 5, & 6).

TABLE 4

Demographics and Dependent Variable Cross Tabulation (N=31)

Characteristics	Recent suicide ideation	Chi-square tests of independence
Age		
40 years and younger (*n*=23)		
Yes	13% (3)	$X^2(1) = 4.637$
No	87% (20)	$p = 0.031$
41 years and older (*n*=8)		$n = 31$
Yes	50% (4)	
No	50% (4)	
Gender		
Male (*n*=29)		
Yes	24.1% (7)	$X^2(1) = 0.624$
No	75.9% (29)	$p = 0.430$
Female (*n*=2)		$n = 31$
Yes	0% (0)	
No	100% (2)	
Race		
Black (*n*=14)		
Yes	21.4% (3)	$X^2(3) = 0.685$
No	78.6% (11)	$p = 0.877$
White (*n*=12)		$n = 30$
Yes	16.7% (2)	
No	83.3% (10)	
Native American (*n*=1)		
Yes	0% (0)	
No	100% (1)	
Other (*n*=3)		
Yes	33.3% (1)	
No	66.7% (2)	

Education level		
Graduated high school (*n*=23)		
Yes	26.1% (6)	$X^2(1) = 0.627$
No	73.9% (17)	$p = 0.429$
Did not graduate high school (*n*=8)		$n = 31$
Yes	12.5% (1)	
No	87.5% (7)	
Marital status		
Never married/single (*n*=21)		
Yes	23.8% (5)	$X^2(3) = 1.582$
No	76.2% (16)	$p = 0.664$
Legally married (*n*=3)		$n = 31$
Yes	0% (0)	
No	100% (3)	
Separated (*n*=1)		
Yes	0% (0)	
No	100% (1)	
Divorced (*n*=6)		
Yes	33.3% (2)	
No	66.7% (4)	
Prior jail incarceration (*n*=26)		
Yes	23.1% (6)	$X^2(1) = 0.023$
No	76.9% (20)	$p = 0.880$
		$n = 31$
Prior prison incarceration (*n*=10)		
Yes	10.0% (1)	$X^2(1) = 1.336$
No	90.0% (9)	$p = 0.248$
		$n = 31$

TABLE 5

Demographic and Independent Variable Cross Tabulation Part 1 (N=31)

Characteristics	**Visitation**	**Chi-square tests of independence**
Age		
40 years and under (*n*=23)		
Yes	34.8% (8)	$X^2(1) = 0.019$
No	65.2% (15)	$p = 0.890$
41 years and older (*n*=8)		$n = 31$
Yes	37.5% (3)	
No	62.5% (5)	
Gender		
Male (*n*=29)		
Yes	37.9% (11)	$X^2(1) = 1.176$
No	62.1% (18)	$p = 0.278$
Female (*n*=2)		$n = 31$
Yes	0% (0)	
No	100% (2)	
Race		
Black (*n*=14)		
Yes	50.0% (7)	$X^2(3) = 3.445$
No	50.0% (7)	$p = 0.328$
White (*n*=12)		$n = 30$

Yes	33.3% (4)	
No	66.7% (8)	
Native American (*n*=1)		
Yes	0% (0)	
No	100% (1)	
Other (*n*=3)		
Yes	0% (0)	
No	100% (3)	
Education level		
Graduated high school (*n*=23)		
Yes	39.1% (9)	$X^2(1) = 0.518$
No	60.9% (14)	$p = 0.472$
Did not graduate high school (*n*=8)		$n = 31$
Yes		
No	25.0% (2)	
	75.0% (6)	
Marital status		
Never married/single (*n*=21)		
Yes	33.3% (7)	$X^2(3) = 1.879$
No	66.7% (14)	$p = 0.598$
Legally married (*n*=3)		$n = 31$
Yes	33.3% (1)	
No	66.7% (2)	
Separated (*n*=1)		
Yes	100% (1)	
No	0% (0)	
Divorced (*n*=6)		
Yes	33.3% (2)	
No	66.7% (4)	
Prior jail incarceration (*n*=26)		
Yes	30.8% (8)	$X^2(1) = 1.565$
No	69.2% (18)	$p = 0.211$
		$n = 31$
Prior prison incarceration (*n*=10)		
Yes	30.0% (3)	$X^2(1) = 0.194$
No	70.0% (7)	$p = 0.660$
		$n = 31$

TABLE 6

Demographics and Independent Variable Cross Tabulation Part 2 (N=31)

Characteristics	**Past suicide ideation**	**Chi-square tests of independence**
Age		
40 years and under (*n*=23)		
Yes	60.9% (14)	$X^2(1) = 0.007$
No	39.1% (9)	$p = 0.935$
41 years and older (*n*=8)		$n = 31$
Yes	62.5% (5)	
No	37.5% (3)	
Gender		
Male (*n*=29)		
Yes	62.1% (18)	$X^2(1) = 0.115$

No	37.9% (11)	$p = 0.735$
Female (n=2)		$n = 31$
Yes	50.0% (1)	
No	50.0% (1)	
Race		
Black (n=14)		
Yes	64.3% (9)	$X^2(3) = 1.329$
No	35.7% (5)	$p = 0.722$
White (n=12)		$n = 30$
Yes	50.0% (6)	
No	50.0% (6)	
Native American (n=1)		
Yes	100% (1)	
No	0% (0)	
Other (n=3)		
Yes	66.7% (2)	
No	33.3% (1)	
Education level		
Graduated high school (n=23)		
Yes	65.2% (15)	$X^2(1) = 0.579$
No	34.8% (8)	$p = 0.447$
Did not graduate high school (n=8)		$n = 31$
Yes		
No	50.0% (4)	
	50.0% (4)	
Marital status		
Never married/single (n=21)		
Yes	66.7% (14)	$X^2(3) = 2.901$
No	33.3% (7)	$p = 0.407$
Legally married (n=3)		n =31
Yes	33.3% (1)	
No	66.7% (2)	
Separated (n=1)		
Yes	0% (0)	
No	100% (1)	
Divorced (n=6)		
Yes	66.7% (4)	
No	33.3% (2)	
Prior jail incarceration (n=26)		
Yes	61.5% (16)	$X^2(1) = 0.004$
No	38.5% (10)	$p = 0.948$
		n =31
Prior prison incarceration (n=10)		
Yes	60.0% (6)	$X^2(1) = 0.010$
No	40.0% (4)	$p = 0.919$
		$n = 31$

To address the first research question, a McNemar's test was used to test the relationship between reports of suicide ideation from the baseline survey and from the one-week follow-up survey. At follow-up, the number of individuals who reported suicidal ideation decreased to 7

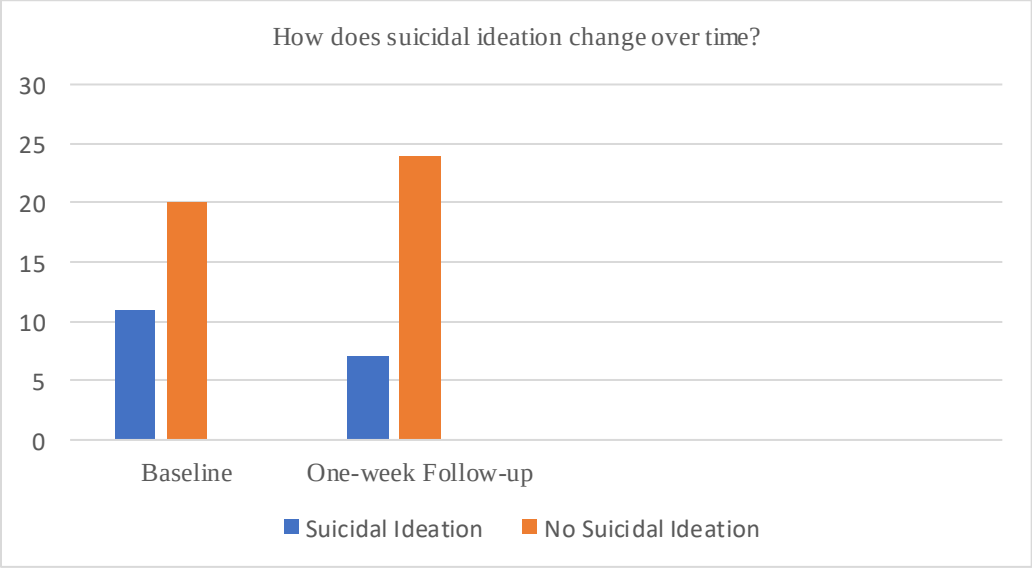
participants (22.6%) while the number of individuals reporting no suicidal ideation increased to 24 participants (77.4%) (see Table 7, Figure 1). This demonstrated a change of 4 individuals not reporting suicidal ideation after one week of incarceration, with 1 individual who had not previously reported suicidal ideation at baseline and did report it at follow-up (see Table 7). An exact McNemar's test determined that the difference in the proportion of individuals reporting suicidal ideation at baseline and follow-up was statistically significant, p=0.002 (see Table 7).

TABLE 7

Research Question 1 McNemar's Results (N=31)

Characteristics	McNemar's Statistics	p	Reported recent suicide ideation
Recent suicide ideation and past suicide ideation	19.4% (6)	0.002*	-
Reported past suicide ideation			
Yes	-	-	19.4% (6)
No	-	-	3.2% (1)

FIGURE 1



To analyze the second research question, a Fisher's exact test was performed to analyze the effect of visitation on recent suicide ideation. Out of 31 inmates in the sample, 11 (35.5%) total inmates reported receiving a visit during the first week of incarceration, and 7 (22.6%) total

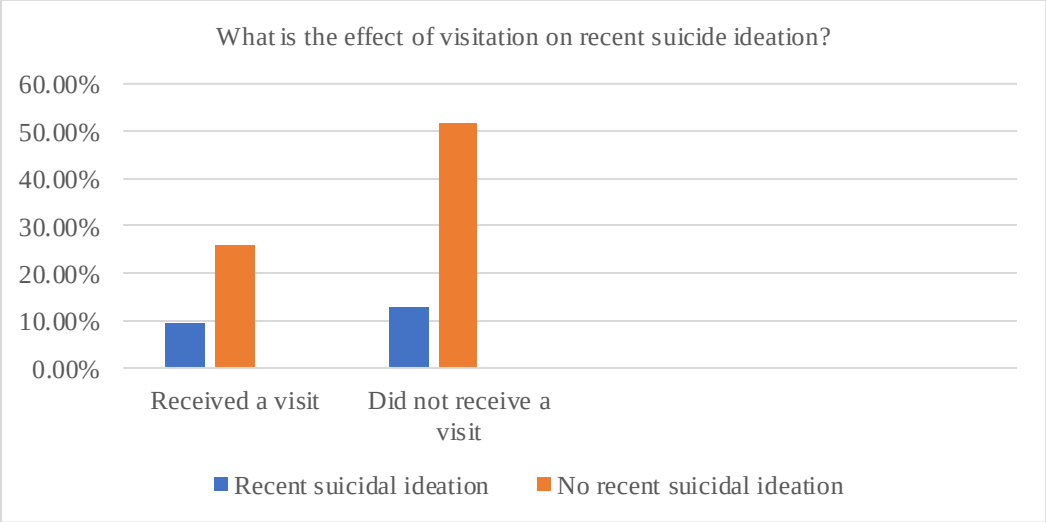
inmates reported experiencing suicidal ideation during the first week (see Table 8). Of those who received a visit during the first week of incarceration, 3 (9.7%) inmates reported recent suicidal ideation, and of those who did not receive a visit during the first week of incarceration, 4 (12.9%) inmates reported experiencing recent suicidal ideation (see Table 8, Figure 2). There was no statistically significant association between receiving a visit and experiencing recent suicidal ideation as assessed by Fisher's exact test, p=0.484 (see Table 8).

TABLE 8

Research Question 2 Fisher's Exact Test Results

Characteristics	Fisher's Statistics	p	Reported recent suicidal ideation
Visitation and recent suicide ideation	9.7% (3)	0.484	-
Received a visit			
Yes	-	-	9.7% (3)
No	-	-	12.9% (4)

FIGURE 2



To address the third research question, a Fisher's exact test was utilized to analyze the effect of remote contact on recent suicide ideation. Out of 31 inmates in the sample, 16 (51.6%) total inmates reported receiving a letter or phone call during the first week of incarceration, and 7 (22.6%) total inmates reported experiencing suicidal ideation during the first week. Of those who

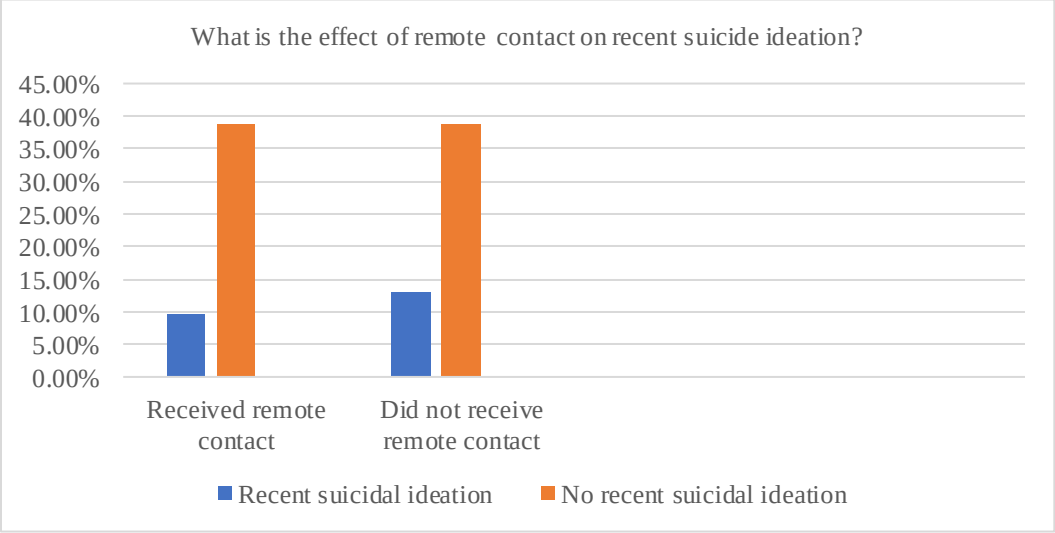
did receive a letter or phone call during the first week of incarceration, 4 (12.9%) inmates reported recent suicidal ideation, and of those who did not receive a letter or phone call during the first week of incarceration, 3 (9.7%) inmates reported experiencing recent suicidal ideation (see Table 9, Figure 3). There was no statistically significant association between receiving a letter or phone call and experiencing recent suicidal ideation as assessed by Fisher's exact test, p=0.539 (see Table 9).

TABLE 9

Research Question 3 Fisher's Exact Test Results (N=31)

Characteristics	Fisher's Statistics	p	Reported recent suicidal ideation
Remote contact and recent suicide ideation	12.9% (4)	0.539	-
Received remote contact			
Yes	-	-	12.9% (4)
No	-	-	9.7% (3)

FIGURE 3



To address the fourth and final question, a Fisher's exact test was performed to determine the effect of both visitation and remote contact on recent suicide ideation. This test found that 19.4% (n=6) of the sample received any form of contact and reported recent suicide ideation (see Table 10, Figure 4). These results indicated that 19.4% (n=6) of the sample responded "yes" to

the questions used to measure suicidal ideation in the follow-up survey after the first week of incarceration, and also reported receiving at least one visit, phone call, or letter during the first week of incarceration in the same follow-up survey. This test was found to be statistically insignificant.

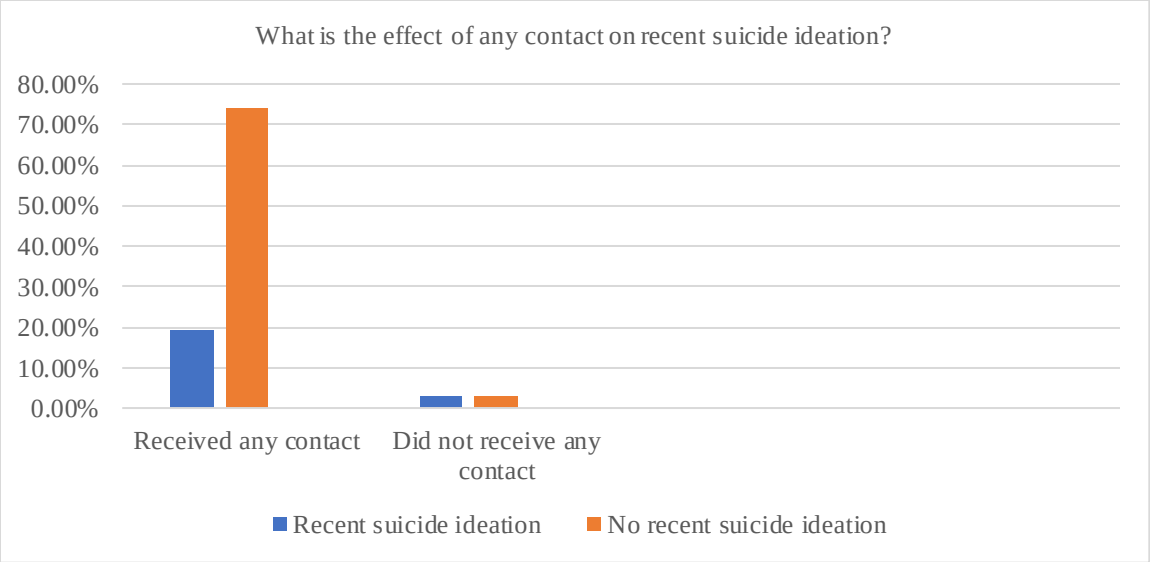
Out of 31 inmates in the sample, 29 (93.5%) total inmates reported receiving a letter or phone call during the first week of incarceration, and 7 (22.6%) total inmates reported experiencing suicidal ideation during the first week. Of those who did receive any form of contact during the first week of incarceration, 6 (19.4%) inmates reported recent suicidal ideation, and of those who did not receive any form of contact during the first week of incarceration, 1 (3.2%) inmates reported experiencing recent suicidal ideation (see Table 10, Figure 4). There was no statistically significant association between receiving any form of contact and experiencing recent suicidal ideation as assessed by Fisher's exact test, p=0.406 (see Table 10).

TABLE 10

Research Question 4 Fisher's Exact Test Results (N=31)

Characteristics	Fisher's Statistics	P	Reported recent suicidal ideation
All contact and recent suicide ideation	19.4% (6)	0.406	-
Received any form of contact			
Yes	-	-	19.4% (6)
No	-	-	3.2% (1)

FIGURE 4



DISCUSSION

This study sought to analyze the relationship between family and social support and suicidal ideation in jail inmates. This was done by examining reported suicidal ideation over the first week of jail incarceration for Walker County Jail inmates. Next, the study measured the relationship between visitation and suicidal ideation, the relationship between remote contact and suicidal ideation, and the relationship between all forms of contact and suicidal ideation. While no significant relationships were found for the main research questions, the study did find interesting results for age and gender, as well as how suicidal ideation changed over time.

First, it was found that inmates over age 40 were more likely to report suicidal ideation. This finding is supported by a finding presented in Hayes' (2010) follow-up study, which found that the average age of jail inmates that committed suicide was 35 years old. This could be

because an older individual has had more opportunity than a younger person to have already experienced previous suicidal ideation or previous suicidal behaviors, or because an older person could have a longer history of prior incarcerations. This is an important finding because it can allow facilities to increase assessment of older inmates to attempt to prevent further suicidal ideation and behaviors.

Next, the study found that male inmates were more likely to receive any form of contact than female inmates. The opposite was found in previous literature, such as a study performed by Connor and Tewksbury (2015) that analyzed visitation by demographic variables. Connor and Tewksbury (2015) found that men were less likely than women to receive visits from every category they examined including visits from children, parents, and friends. Therefore, this result may have occurred due to the limited number of female participants in the sample. Future research should focus on having a larger sample of females to better measure gender differences.

Findings also suggested reports of suicidal ideation decreased over the course of the first week of jail incarceration. However, about 22% of the sample continued to report suicidal ideation after the first week of incarceration. This is still a sizable amount of the sample experiencing suicidal ideation, considering that the World Health Organization (2008) found a prevalence rate of suicidal ideation across 21 countries to only be 9.2%. This also falls in line with Hayes' (2010) findings that the first two weeks of jail incarceration presented the highest suicide risk for inmates.

The lack of a statistically significant relationship between visitation and remote contact on suicidal ideation may have occurred because visitation or remote contact is not enough family or social support for some inmates. The CDC (2010, 2017) and other studies (Liebling, 1992, 1995, 1999) identified connectedness as a protective factor in suicide prevention for inmates.

Since connectedness refers to the extent to which a person feels connected to their family, friends, and community, a single visit, phone call, or letter during the first week of incarceration may not have been enough to provide a protective level of connectedness. Since this study only measured receiving any form of contact at all and did not utilize data on frequency of visitation or remote contact for this study in particular, future research could seek to measure if quantity of visits, letters, or phone calls makes a difference for inmates' feelings of connectedness.

In addition to analyzing quantity of contact, the quality of contact could be considered as well. The current study did not measure the content of the contact, or how the contact made the inmate feel. For example, if the visit was negative or not prosocial in nature, it could lead to reduced feelings of connectedness. The CDC (2010) already noted that negative or non-prosocial interactions can lead to increased suicide risk in the general population, so by analyzing the content of contact and how it made the inmate feel, future research can not only measure if positive interactions are protective for jail inmates, but also if negative interactions lead to increased suicidal ideation. It is for these reasons that the quality and content of contact should be considered in future research.

Limitations

One of the limitations of the current study was the small sample size. However, the data was obtained from a pilot study; therefore, the small sample size was not unexpected. Pilot studies are critical in testing measures with a small sample before implementing the study on a larger scale. This was important for developing appropriate ways to ask inmates about a sensitive and complex subject that can be difficult to study. Additionally, performing the pilot study before a more widespread study also allowed the research team to develop and improve study

protocols and interview techniques. This strategy provided an opportunity to adjust wording of questions that addressed sensitive topics like suicide.

While not the purpose of the current study, the sample of 31 inmates from one small, rural Texas jail, resulted in limited generalizability. The sample being this small and from only one jail makes it difficult to assume these results can be generalized to all inmates in every jail. This limitation could have led to this study's results not matching that of other studies, such as the findings mentioned in the literature review from Palmer and Connelly (2005). Palmer and Connelly found that inmates with prior suicidal ideation were more likely to report suicidal ideation during incarceration than those without a prior history (Palmer & Connelly, 2005). The Palmer and Connelly (2005) study also analyzed 24 prison inmates who had already reported prior suicidal tendencies alongside 24 prison inmates who had not. For the current study, being able to have a sizable sample of inmates with known histories of suicidality to compare to another sample of inmates without prior histories was not possible. Due to the results from the study and previous research, it is recommended the study be performed on a larger scale. Expanding this pilot project to a wide-spread study to multiple jails around the country with more inmates would allow for greater generalizability and allow facilities that have not participated in studies to still adopt the recommended policy implications.

Second, longitudinal data for the sample was limited beyond the first week of incarceration. The current study performed weekly follow-up interviews for six weeks, however, due to attrition and the fact that jail inmates arrive to and get released from the jail frequently, only the first week's follow-up data was sufficient for the current study. Jail populations are constantly changing due to housing inmates that often serve short sentences, are awaiting trial, or will post bail. The constant change in the population provided added difficulty in performing a

longitudinal pilot study. Since Hayes' (2010) follow-up report found the first 48 hours of incarceration to present just as much risk as the first 2-14 days, including weekly follow-up data for an extended period of time from the same sample can assist in developing a broader understanding of when suicidal ideation peaks and whether it decreases. Additionally, having additional, more extensive longitudinal data from this sample would have allowed for further analysis of changes in visitation and remote contact week by week to determine if weeks with lower or higher rates influenced reports of suicidal ideation.

Lastly, suicide is a complex and difficult subject to study for a multitude of reasons. Feelings of suicidal ideation are personal and private thoughts, and many people in general, not just inmates, may not want to share the full extent of their ideation, or any information about their feelings at all. It is likely that at least some of the survey participants were not comfortable disclosing information regarding their own suicidality with the survey administrators. In a paper written by Hayes (2013), he discussed that many suicidal inmates may not disclose this information if the consequences appear to be punitive, such as isolation, as a result, they fear being ostracized by other inmates, or due to the manner in which the questions are asked. Further, the survey utilized by this study asked participants if they had ever done anything to hurt themselves or end their life, and only 7 out of the 31 inmates in the sample responded to the question at all.

Additionally, suicide is a rare event and is not a regular, calculated occurrence, making the phenomenon harder to study. Hayes' (2010) extensive study analyzed every jail suicide that occurred in the United States between 2005 and 2006, which totaled 696 suicides. This number demonstrates the rarity of occurrence, compared to the fact that 747,539 people were incarcerated in local jails that same year (Harrison & Beck, 2006).

Future Research

There are several things that can address this study's limitations and improve future research. Since the data comes from a pilot study, future research should collect data from a larger sample of inmates from more than one jail, and preferably from other states as well. Increasing the sample size and locations will allow for greater generalizability for all jail inmates. Having the ability to generalize data from a study like this one would allow for policy implications to be justified in facilities where the study was not performed. Implementing new policies will allow facilities to protect inmates once they begin to express suicidal ideation and can assist in preventing future suicides.

Since previous research has found suicide risk past the first week of incarceration (Hayes, 2010), future research should collect more extensive longitudinal data from the sample. Since this study's goals were to perform weekly follow-ups for several weeks, but this did not happen due to attrition, future research can seek to amend the obstacles the current study faced. The original sample was cut in half after participants dropped out or were released from the jail just between the baseline enrollment interview to the first week follow-up. There are a few ways future research can seek to amend this problem to develop more extensive longitudinal data. One thing future research could do to prevent participants from dropping out is utilizing a shorter battery for the baseline survey – a 2-hour interview may have been too much for some of the participants that dropped out of the study prior to the first week follow-up interview. Since it is the nature of jails that inmates are frequently rotating through the facility and getting released more frequently than prison inmates, attrition due to being released is inevitable when studying jail populations. Expanding the survey sample to more jails and conducting interviews with more

inmates could potentially make up for those participants that will inevitably be released from the jail or drop out.

Next, future research should expand on the level and amount of visitation and remote contact to assess its relationship on suicidal ideation. Past research has identified feelings of connectedness as protective against suicide but receiving one visit may not constitute feelings of connectedness for some inmates. For this reason, future research should analyze how many visits, phone calls, or letters are needed for an inmate to attain protective levels of connectedness. Further, utilizing data on the quality and content of contact could help to better analyze feelings of connectedness in the future. Since connectedness refers to how close individuals feel to family, friends, and their community (CDC, 2010), analyzing how an inmate's contact made them feel would better gauge connectedness than simply measuring just receiving contact at all. For example, a visit from a friend or family member that involves fighting, or receiving bad news, probably will not give the inmate feelings of connectedness. While connectedness can serve as a protective factor against suicide, the CDC (2010) also noted that no feelings of connectedness can lead to suicidality as well. Therefore, measuring how the contact they received made the inmate feel can lead to a better understanding of the role connectedness plays in inmate suicidality.

Further, there are a plethora of variables associated with increased suicide risk in incarcerated populations that could be added in future research. The analysis of mental illness could be added into a future study, since mental illness plays a large role in suicidality. Hayes (2010) found that 38% of his sample had a history of mental illness prior to committing suicide; however, this number could have been higher due to lacking prior mental illness histories of another 30% of his sample. Future research could analyze the effects of visitation and remote

contact on symptoms of mental illness, as well as the relationship between mental illness and reported suicidal ideation.

Policy Implications

Despite finding a decrease in reported suicidal ideation after one week, this study still found that about 22% of the sample continued to report suicidal ideation. Therefore, due to the current study's findings being supported by prior research, it can be suggested that jails provide initial and annual suicide prevention training to their staff. In a suicide prevention for correctional facilities article written by Hayes (2013), it was found that many jail suicides occur in facilities that do not have comprehensive prevention plans. In fact, only 20% of facilities that had a suicide victim had written policies that encompassed all the essentials noted by Hayes (2010), which include initial and annual staff training on suicide prevention as well as initial intake and on-going suicide risk assessment (Hayes, 2013).

Next, with sizable rates of suicidal ideation still being present after the first week, further policy change that can be recommended would be having staff conduct suicide risk assessments on inmates throughout their incarceration. It is typical for facilities to only ask inmates about feelings of suicide at booking and then never again, so policy change implementing regular risk assessments could help with identifying symptoms of suicidality in inmates and try to prevent inmate suicides. Hayes (2013) addressed in a suicide prevention article that many jails treat suicide risk assessment as single opportunity, intake-only problem, when it should be treated continuously. Since inmates can become suicidal throughout any point of incarceration, risk assessment should begin from when an inmate enters the facility and regularly thereafter until the inmate is released (Hayes, 2013). With thorough and continuous risk assessment, inmates experiencing suicidal ideation can be identified and staff can intervene and provide programming

to prevent further ideation or behaviors. In addition, with initial assessment at booking, inmates can be flagged for having a history of suicidal ideation so that staff can be aware of signs to look for in addition to providing risk assessment throughout that inmate's risk assessment.

CONCLUSION

The greatest takeaway from this study is that rates of reported suicidal ideation, even if it decreases after a week of incarceration, is still much greater in jail inmates than in the general population. The jail experience is proven to be traumatic to inmates (Biggam & Power, 1997; Chammah & Meagher, 2015; Hayes, 1986, 2010, 2013; Liebling, 1992, 1995, 1999), making jail inmates three to four times more likely than the general population to commit suicide (Jenkins et al., 2005; Hayes, 1986). Suicide prevention measures have been identified for correctional facilities, but many facilities have yet to incorporate these suggestions (Hayes, 2013), and many factors relating to suicide still require further research on the jail population. There is still more work to be done in this complex subject, but each study brings the field closer to finding solutions to assist with and prevent this problem.

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