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The Relationship between Chicago Gangs and Youth Mental Health

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Introduction

Since the founding of the city in 1833, gangs in Chicago have been a byproduct of larger systemic oppression which can be seen in both the racial and financial segregation of its neighborhoods. By the 1980s and 1990s, organized crime consisted of large cross-neighborhood gang nations that adhered to their respective central authority and hierarchies. As of today, Chicago is considered the most gang-affiliated city in the United States, with the Chicago Crime Commission's gang book reporting a currently estimated 150,000 gang members belonging to over 70 gangs and 2,000 factions (Domma et al., 2018). However, gangs today have a much more simplified social hierarchy and are fractured remnants of what they once were. Rather than submitting to leaders or following pre-existing rules and codes, modern gangs are small independent neighborhood factions that have no larger loyalties. These gangs have begun recruiting members at younger ages, with the majority of members joining during high school and some members joining as early as elementary school (Hagedorn, 2006).

While previous research on gang affiliation in youth has focused on areas such as predictors of or protective factors against gang involvement, little work has been done investigating the relationship between gangs and youth mental health. However, research has also shown that adolescence is a crucial point in human development, with mental health during this time period greatly predicting future life outcomes (Newcomb & Bentler, 1988). If gang affiliated youth indeed exhibit different mental health symptoms and needs compared to non affiliated youth, it is important to understand these differences in order to best meet their needs and ensure healthy psychosocial development. With increasing numbers of adolescents joining gangs at younger ages, the need to understand this relationship rises (Stuart, 2020).

In order to better understand this relationship, this study focuses on exploring both positive mental health traits such as belonging, identity, and self-esteem, and also negative mental health traits such as trauma. From there, it aims to determine the relationship between these variables and level of gang affiliation to investigate if youth who are more gang involved are affected more strongly by these mental health traits. By doing so, this study aims to better understand the mental health needs of affiliated youth and how to best meet them.

For the purposes of this study, youth who are not gang members but have a close relationship with at least one person in a gang will be referred to as gang connected. Youth who are gang connected and gang members will be referred to as gang affiliated. Those who are not gang affiliated will be referred to as non affiliated. It is also important to keep in mind that there are multiple kinds of gangs in Chicago, and gangs from the South Side can look vastly different from those on the West Side, and Latino gangs can look vastly different from Black gangs. What applies to one gang might not apply to another.

Literature Review

Adolescent Development in Context

After infancy, adolescence is the most rapid period of human development. Aside from physiological and hormonal changes, key psychosocial changes also take place. During this phase, mental health is especially important as youth are faced with opportunities to explore and solidify their identities (Erikson, 1968; Marcia et al., 2012). With these changes, adolescents possess critical needs for social belonging, accomplishment, self-worth, and close relationships. In an attempt to satisfy these needs, adolescents may engage in exploratory or risk-taking behaviors to find the credentials for adulthood. In particular, recent times have seen an increase in risky behaviors that have resulted in increased rates of teenage pregnancy, abuse of non

prescription drugs, underage drinking, smoking, suicide, and other adverse health consequences (Hamburg & Takanishi, 1989).

Indeed, each adolescent's environment dramatically influences their development. In his Ecological Systems Theory, Bronfenbrenner (1992) proposes multiple socio-environmental systems that interact and affect each other bidirectionally, all influencing the individual at the center. While the microsystem is composed of individuals closest to the child such as family members, teachers, peers, and caregivers, the mesosystem can be thought of as a network of the child's interconnected microsystems. The interactions that different individuals in the mesosystem have with each other, such as a parent with a teacher, subsequently influence the individual's development. The exosystem is composed of structures that indirectly affect the child, such as parents' workplaces or the larger neighborhood. At the macrosystem level, a *melange* of cultural, social, economic, political, and ethnic elements and patterns affect the developmental trajectory of the child. Finally, the chronosystem encapsulates change that occurs throughout the lifetime, including major life changes and historical events. To some extent, the historical context of the time informs the child with an understanding of how the world operates, and what is safe and unsafe (Bronfenbrenner, 1992).

For many youth of color in Chicago, their socio-environmental systems are largely influenced by gangs. Even if an individual is not themselves in a gang, they may directly or indirectly have a relationship with a gang member, such as a romantic partner or classmate, respectively. These relationships in turn affect how the individual develops, the content and experiences they are exposed to, and the choices they make. At the macrosystem and chronosystem levels, their historical context includes policies such as redlining, the mass demolition of public housing, and the War on Drugs, which have disproportionately affected

Black and Latino communities (Hagedorn & Rauch, 2017). This context feeds into the current cultural and sociopolitical environment which has been influenced by systemic oppression that results in cyclical poverty, the fight against gun violence, the struggle against police brutality, and the Black Lives Matter movement (Taylor, 2017).

Building on Bronfenbrenner's Ecological Systems Theory, the Phenomenological Variant of Ecological Systems Theory (PVEST) is a human developmental model that considers the impact and interactions of identity formation, individual perceptions, and cultural context. Its focus on cultural, social, and historical environments make it inclusive and applicable to individuals from diverse communities and backgrounds. Made up of five components that are linked bidirectionally, the proposed process is both cyclical and recursive (Spencer et al., 2015; Spencer, M. B., & Swanson, D. P., 2016).

The first component of PVEST is the net vulnerability level, which is made up of the contextual and personal characteristics that may contribute to developmental risk, which includes race, gender, or socioeconomic status, but can also include biological characteristics or physical status, such as early maturation. While some of these characteristics are risk factors that may result in adverse outcomes, they can be offset by protective factors. These characteristics may also elicit certain stereotypes and biases, which in turn affect the self-appraisal and subsequent identity formation processes. These risk and protective factors result in an adolescent's net stress engagement, which is made up of both challenges and supports. For example, while youth in Chicago might possess risk factors such as living in dangerous neighborhoods, having supports such as a nurturing home environment can offset the negative net stress engagement. In response to their stressors, adolescents develop reactive coping mechanisms. With more protective factors and supports, youth are more likely to develop adaptive coping mechanisms, such as seeking

social support through close friendships. As self-appraisal, lived experiences, and coping continue, they all contribute to an adolescent's emergent identity and how they view themselves, which can be negative or positive. Finally, if life-stage coping outcomes are productive despite high net vulnerability and net stress engagement, resilience is achieved (Spencer et al., 2015).

Belonging

The need to belong is a fundamental human motivation that involves seeking connection and support from others that brings about a sense of acceptance and inclusion. Indeed, having a strong sense of belonging results in several positive emotional and cognitive outcomes, while a lack of attachments has negative implications for health, adjustment, and wellbeing (Baumeister & Leary, 2017). During adolescents, secure relationships and the sense of belonging is crucial to combat stressors. Teens look to and orient themselves with the people around them in order to make sense of themselves and who they are. Additionally, important relationships with trusted peers or mentor figures encourage youth to pursue and explore certain identity roles and dissuade them from pursuing others (Coyne & DeLongis, 1986). While a strong sense of belonging in adolescence can lead to increased self-esteem, motivation, and academic achievement (Reblin & Uchino, 2008; Scandera et al., 2020; Ahmed et al., 2010), weak social belonging can lead to a range of internalizing and externalizing symptoms including feelings of anxiety, heightened aggression, and increased antisocial behaviors (Baumeister & Tice, 1990; Twenge et al., 2001).

During this period in which youth attempt to find the social circles in which they belong, they often look to their communities, including families, schools, and neighborhoods. For many of the urban adolescents of Chicago, these social circles include gangs. Joining these gangs afford youth an extra level of protection in an environment in which their safety is constantly threatened. For example, if someone were to hurt one gang member, the rest of the gang would

retaliate in order to obtain vengeance, send a message warning against future harm inflicted, and build its reputation as willing to engage in violence as a form of deterrence (Rizzo, 2003).

Joining gangs also provides some youth with a sense of identity and purpose, something all children of their age desperately seek. Some members get pulled into their gangs because they already have close kinship ties with current members, who may be family members or friends. Indeed, members of neighborhood gangs often share a sense of solidarity from similar life experiences such as growing up in a time of systemic racism, encountering police brutality, or living under extreme poverty. As a result of these factors, youth may feel that their gangs are their primary or only social groups in which they truly belong (Taylor, 2013).

Identity

Largely dependent on their social circles and the coping mechanisms that develop in response to the supports and stressors they face, adolescents begin to develop senses of identity for the first time in their lives. Self-perception becomes increasingly salient as individuals construct and interpret their changing identities and seek to determine how they define themselves (Steinberg, 2008; Erikson, 1968). While some aspects of identity are predetermined such as race or disability status, many social aspects of identity are able to be chosen and formed by the individual (Frideres, 2002). As a result, adolescents often carry multiple different identities and are tasked with understanding and navigating each of them and the ways in which they intersect.

In gangs, the association between group cohesion, group identification, and violent behavior is mediated by the strength of social identity (Hennigan & Spanovic, 2012). This violent behavior is often the manifestation of the image of toughness and hypermasculinity that many members attempt to portray. This image can become a requisite for survival, as building

this reputation protects the self by dissuading others from attacking. This self-image is often reinforced through gang symbols, rituals, and norms. For many gang members, bearing symbols of their affiliation eventually become a source of great pride and self-esteem (Vigil, 2010).

Self-esteem

As adolescents evaluate their ever shifting identities, they begin to determine their self-worth, which is known as self-esteem. Numerous studies have shown that self-esteem fluctuates significantly in adolescence, with notable and drastic decreases in early adolescence (Harter, 1990, Hirsch & Dubois, 1991). These self-judgements depend largely on satisfaction with physical appearance, gender, race, and social class, and can be different depending on social context (Harter, 1999). For many youth, self-esteem is largely based on self-efficacy, achievement, and critical self-talk, a self-evaluative mechanism that is learned from parental feedback and support (Baccini & Magliulo, 2003; Clarke, 2011). Adolescents with low self-esteem are more likely to underperform in school, engage in earlier and riskier sexual behavior, exhibit internalizing symptoms such as depression or anxiety, and engage in violent or criminal behavior (McClure et al., 2010).

Despite the correlation of emotionally unstable family environments, criminal behavior, and low socioeconomic status with low self-esteem, some studies show that gang members tend to exhibit higher levels of self-esteem, regardless of rank within the organization (Baumeister et al., 1996; Barbieri et al., 2016). However, the research in this area is often contradictory, with multiple studies also reporting that gang members exhibit lower self-esteem than non gang members (Wang, 1994; Florian-Lacy et al., 2002). Regardless of level of self-esteem, gang members often incorporate their affiliation into much of their identity. Indeed, members may

demonstrate high levels of commitment to their social identity status, but often sacrifice exploration of other viable identities, leading to a foreclosed identity status (Marcia, 1966).

Trauma

As much as belonging, sense of identity, and self-esteem are formative in adolescence, so is the presence of trauma impactful during development. Trauma is a person's physical, emotional, and psychological response to stress. While short-term stress has benefits such as boosted attention, performance, and motivation, the more chronic stress becomes, the more unhealthy it is. At times, this stress can be sudden and unpredictable, such as involving a serious threat to life or wellbeing. During childhood and adolescence, trauma permanently alters neural pathways and disrupts brain circuits by constantly activating the body's stress response systems (National Scientific Council on the Developing Child, 2007). Additionally, violence exposure has been linked to developmental issues in learning as well as physical and mental health. Indeed, individuals stuck in a constant state of hyperarousal and fixation on their current wellbeing are not able to effectively form trusting relationships, differentiate between threat and safety, or focus on academic performance (Fowler et al., 2009).

Known as adverse childhood experiences (ACEs), trauma that occurs before the age of 18 has a lasting impact on the individual. ACEs often involve abuse or neglect from the primary caregiver, but can also include events such as coping with parents' divorce or witnessing community violence. The more ACEs experienced, the greater the risk for negative outcomes such as poor physical and mental health, poor academic performance, and substance abuse (Center for Disease Control and Prevention, 2016). This accumulation of ACEs is known as toxic stress, an extended biological response to stress that interferes with brain development and the immune system and ultimately affects children's attention, decision making, and learning.

ACEs are common, affecting up to 61% of the population, with one in six people experiencing at least four types of ACEs. However, girls and racial minorities are at higher risk of experiencing ACEs (Jia & Lubetkin, 2020).

Research has shown that gang affiliation in adolescence can drastically increase many of these negative mental health effects related to trauma. Rates of suicide attempts, substance abuse, PTSD, Generalized Anxiety Disorder, and Antisocial Personality Disorder are higher amongst youth who are gang members (Macfarlane, 2019). Additionally, amongst youth who are involved in gangs, there is an increased likelihood of experiencing partner domestic violence, sexual violence, and dropping out of school (Petering, 2016). Exposure to community violence can cause youth to live with consistently elevated levels of stress, not unlike the stress experienced by soldiers in combat during wartime. This stress can result in increased likelihood of perpetuating cycles of violence and impaired development of the prefrontal cortex, which is the area of the brain that controls executive function such as impulse control and decision making (Lynn-Whaley, 2017).

The current study is the first of its kind to investigate the relationship between level of gang affiliation and mental health, which encompasses trauma, belonging, identity, and self-esteem among youth in Chicago. Expanding on previous frameworks of adolescent development, it strives to better understand how gang connections and involvement impact these at-risk youth. To address this question, this study utilizes survey measures and free response questions to reveal how mental health might differ between affiliated and non affiliated youth.

It is hypothesized that gang affiliated youth in Chicago will express both positive and negative mental health symptoms. While their affiliation might provide them with a stronger sense of belonging, identity, and self-esteem from the social support and group membership they

receive, it might also result in trauma from violence exposure. Youth who are active or inactive gang members should exhibit more symptoms related to belonging, identity, self-esteem, and trauma compared to youth who are not gang members. Amongst these youths, those who have at least one close relationship with someone in a gang should exhibit more of these symptoms than those who have no gang connection at all. In other words, youth with greater gang affiliation are expected to exhibit more positive and negative mental health symptoms.

Methods

Participants

Participants were recruited with the assistance and cooperation of three different nonprofit community organizations that work with at-risk youth. The first of these organizations, Precious Blood Ministries of Reconciliation, was founded in 2002 by a group of Catholic priests and is located in the Back of the Yards neighborhood on the South Side of Chicago. It serves youth and families impacted by community violence by fostering community and resolving conflict using a restorative justice approach. Participants were also recruited from Central States SER, an organization in the Lawndale neighborhood on the Lower West Side of Chicago that offers various services including summer school and afterschool programming, job placement and job readiness training, and financial coaching. Founded in 1987, it has served over 12,000 people, primarily low-income community residents, high school students, adults trying to earn their GED, and currently or formerly incarcerated individuals. Participants were recruited from a third location at the South Side YMCA in the Woodlawn neighborhood of Chicago. Dedicated to youth development, healthy living, and social responsibility, it is part of a larger network of Chicago YMCAs that was founded in 1858. Currently, it offers a variety of fitness and health

programs, childcare, summer camps, and youth leadership and violence prevention programming.

All participants were male and between the ages of 13 and 26 ($M = 20.36$, $SD = 3.65$) from the South Side and West Side of Chicago. Out of the 46 total participants, 10 were removed from final analysis due to inattentiveness or incomplete data. Of these 36 remaining participants, 25 (69.4%) were Black, nine (25%) were Latino, one (2.8%) was both Black and Latino, and one (2.8%) was Asian. To explore the effects of socioeconomic status, participants were asked whether they qualify for or have previously qualified for free or reduced school lunch. A total of 25 (69.4%) participants qualified for free school lunch, and a total of three (8.3%) participants qualified for reduced school lunch. Eight (22.2%) participants reported not qualifying for either.

Of the 36 participants, 10 (27.8%) were non affiliated, 12 (33.3%) were gang connected, and 13 (36.1%) were currently or previously active gang members.

Materials

Validated scales were used to measure both positive and negative mental health effects. The Social Connectedness Scale (SCS) (Lee & Robbins, 1995) was used to measure belonging. Out of a total of 40 points, a lower score indicates greater sense of belonging.

A modified version of the Multigroup Ethnic Identity Measure (MEIM) (Roberts et al., 1999) was used to measure identity. In all instances in which questions referred to an ethnic group, the phrase was replaced with peer group. Out of a total of 48 points, a higher score indicates greater sense of identity.

Based on the Rosenberg Self-esteem Scale (Rosenberg, 1965), the Adolescent Self-esteem Questionnaire (ASQ) (Byrne, Davenport, & Mazanov, 2007) was used to measure self-esteem. Out of a total of 52 points, a higher score indicates greater self-esteem.

The Child and Adolescent Trauma Screen (CATS) (Sachser et al., 2017), which is a questionnaire based on the DSM-V criteria for PTSD, was used to measure trauma. Out of a total of 76 points, a higher score indicates the presence of more trauma symptoms.

These 4 scales, along with questions about demographics and gang affiliation, were compiled into a 15 minute long survey. Participants who were not gang affiliated followed instructions in the survey to skip questions about their gang affiliation. For a copy of the survey questionnaire, please refer to *Appendix 1*.

Procedures

All participants gave informed consent and were compensated with \$10. Additionally, participants were given a list of mental health resources to refer to once they finished the survey if they felt the need to consult a professional. No identifying information was collected, and appropriate precautions were taken to ensure confidentiality of data.

Results

To compare the levels of belonging, identity, self-esteem, and trauma between the three different groups, multiple linear regressions were performed. Each of the four mental health traits were analyzed separately. For the means, standard deviations, medians, range, and first and third quartiles of belonging ($M = 10.47$, $SD = 8.82$), identity ($M = 22.85$, $SD = 11.84$), self-esteem ($M = 41.43$, $SD = 9.18$), and trauma ($M = 28.2$, $SD = 17.22$) inclusive of all participants ($n = 36$), please refer to *Table 1*.

The hypothesis was only partially supported in that while there was a significant difference in levels of trauma when comparing gang members and non gang affiliates, there was no significant difference between gang membership and the positive mental health traits of belonging, identity, or self-esteem. Trauma amongst gang members was significantly higher by

an average of 16.76 compared to non affiliated youth ($M = 16.76, SD = 7.15$), $t(32) = 2.34, p = 0.026$. When compared to non affiliated youth, gang connected youth showed no significant difference in trauma, although scores trended higher by an average of 10.59 points ($M = 10.59, SD = 6.78$), $t(32) = 1.56, p = 0.13$. Additionally, when linear regressions were performed controlling for both age and socioeconomic status, there were significant differences between gang members and non affiliates in the traits of trauma ($M = 17.67, SD = 7.57$), $t(29) = 2.33, p = 0.027$, and identity ($M = 11.27, SD = 5.65$), $t(21) = 1.99, p = 0.06$.

Although no significant differences were found between each of the three groups for any of the positive mental health traits, scores for belonging amongst gang connected youth trended higher than both non affiliates ($M = 4.63, SD = 3.62$), $t(32) = 1.28, p = 0.21$ and gang members. Since higher scores of belonging indicate lower senses of belonging, this means that gang connected youth exhibit lower senses of belonging. Similarly, scores for self-esteem trended higher among gang connected youth compared to non affiliates ($M = 5.02, SD = 3.94$), $t(32) = 1.27, p = 0.21$, and gang members. Gang members trended higher on average levels of identity than gang connected youth ($M = 4.46, SD = 4.67$), $t(24) = 0.96, p = 0.35$. Results are displayed in *Table 2* and *Figure 1*.

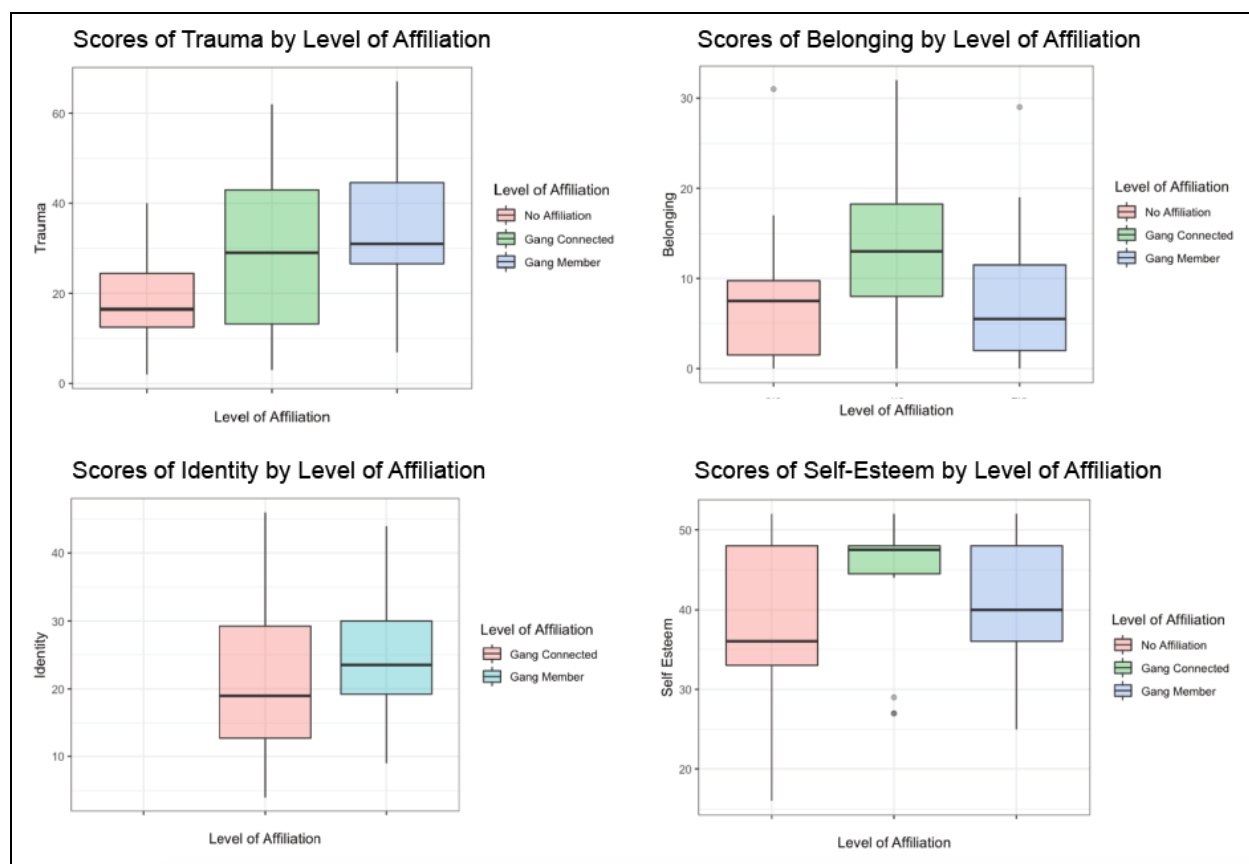


Figure 1. Mental health traits by level of affiliation are displayed. Trauma was the only trait that exhibited significant differences between gang members and those with no gang affiliation.

Additionally, scores for trauma were found to be significantly lower among those who did not qualify for free or reduced lunch, ($M = -13.25$, $SD = 6.82$), $t(32) = -1.93$, $p = 0.061$. However, these participants scored significantly higher on belonging ($M = 10.75$, $SD = 5.74$), $t(32) = 1.87$, $p = 0.074$. Regarding differences in race, Latino participants scored significantly lower on belonging ($M = -7.08$, $SD = 3.05$), $t(32) = -2.32$, $p = 0.03$. Since higher scores of belonging indicate lower sense of belonging, these results indicate that those who did not qualify for free or reduced school lunch exhibited lower senses of belonging, and Latino participants exhibited greater senses of belonging. There were no further significant group differences involving race or socioeconomic status.

In analyzing free response answers, five different themes emerged: family, positive to negative attitudes, safety, regret, and pride. Amongst gang members, 11 out of 16 (68.8%) mentioned or referred to their gang as a family. Amongst gang connected youth, five out of 17 (29.4%) mentioned or referred to the gang which they were affiliated to as a family. Some participants started their free response answers positively speaking about their gang but then progressively spoke about them in a more negative manner. This pattern was observed nine times (56.2%) among gang members and two times (11.8%) among gang connected youth. Additionally, while seven (43.8%) gang members mentioned the role of feeling safe within their responses, only three (17.6%) gang connected youth referenced it. Similarly, while seven (43.8%) gang members expressed regret in their responses, only one (5.9%) gang connected youth expressed regret. On the other hand, no (0%) gang members talked about their pride in their gang, while two (11.8%) gang connected youth expressed pride in their connections. Results are displayed in *Figure 2*.

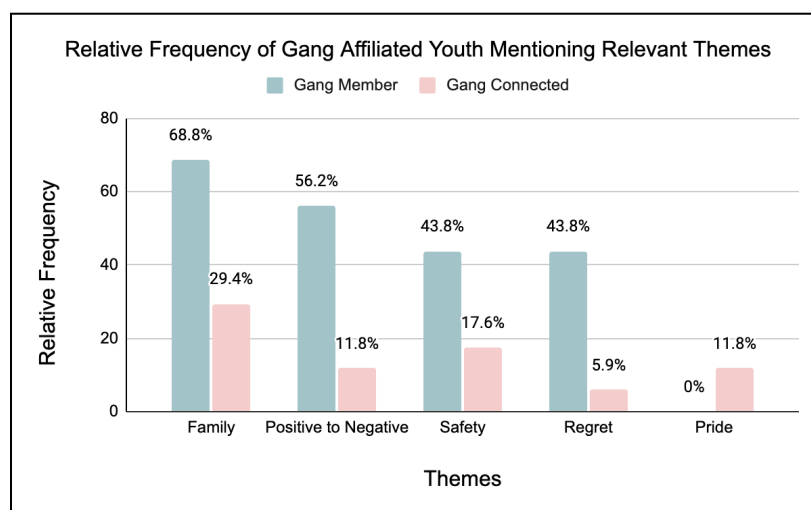


Figure 2. Relative frequencies, or percentages, of how often participants mentioned relevant themes are displayed. Gang members were more likely to mention all themes except for the theme of pride.

Further analysis of free response answers indicated that 10 (62.5%) gang members mentioned how their membership affected their mental health, while three (17.6%) gang connected youth touched on how their connection influenced their mental health. Conversely, five (31.2%) gang members mentioned how their mental health affected their membership, and seven (41.2%) gang connected youth mentioned how their mental health affected their connections. Results are shown in *Figure 3*.

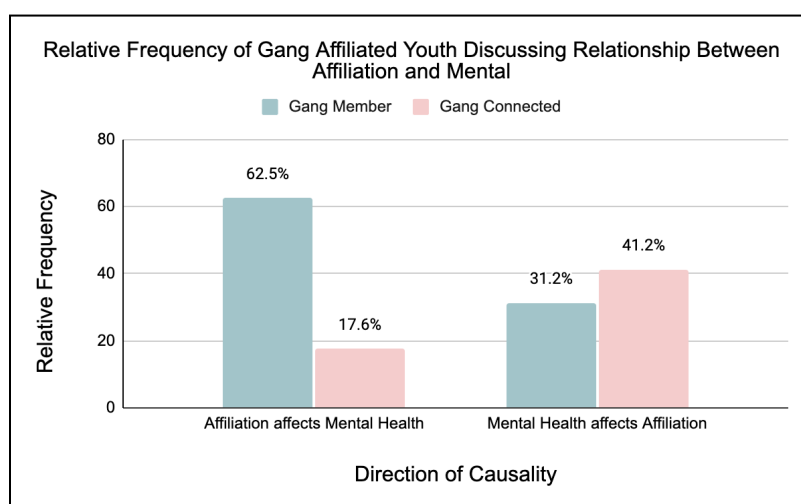


Figure 3. Relative frequencies, or percentages, of how often participants mentioned how their affiliation affected their mental health or vice versa are displayed. Gang members were more likely to mention how their affiliation affected their mental health, while gang connected youth were more likely to mention how their mental health affected their affiliation.

Discussion

The current study is among the first of its kind to explore the connection between gang affiliation and mental health amongst Chicago youth. In order to determine the relationship between trauma, belonging, identity, and self-esteem, validated measures for these mental health traits were used to capture their respective scores amongst youth who are gang members, gang connected, and non affiliated. Gang affiliated youth were asked free response questions about how their affiliation has affected their mental health and vice versa. Answers were coded in order

to better understand the direction of causality in the relationship between affiliation and mental health.

Trauma and Gang Affiliation

Focusing on how mental health is related to gang affiliation, it was hypothesized that as gang affiliation increased, so would the presence of both positive and negative mental health symptoms. This hypothesis was only partially supported, as only trauma had a significant difference amongst gang members. It should be noted that the higher levels of trauma among gang connected youth compared to non affiliates was not statistically significant. This may be because there was greater variance in trauma scores amongst gang connected youth. Participants in this category greatly varied in the number of people they knew in gangs as well as the amount of time they regularly spent with these people. For example, some participants only had one friend who was a gang member and only spent a few hours each week with them, while other participants' entire families and friend circles were gang members, whom they spent every day with.

Although the differences were not significant, it was unexpected that average scores for belonging and self-esteem were higher amongst gang connected participants than both gang members and non affiliated participants. Since gang connected youth are neither gang members nor completely unaffiliated but rather somewhere in between, their expected average scores for these traits should have been in between the average scores for gang members and non affiliated participants.

Relationships Between Mental Health Traits and Gang Affiliation

Even though trauma was the only mental health trait that yielded significant differences, it is important to understand that all four of these traits are interrelated, mutually affecting each

other. Stressors that these adolescents face can result in higher levels of trauma, but adaptive coping mechanisms may result in seeking out stable relationships and belonging. Over time the coping mechanisms that adolescents use to face their stressors often becomes integrated into their personal identity. This identity is also heavily influenced by self-esteem, which increases as belonging increases (Spencer et al., 2015; Spencer, M. B., & Swanson, D. P., 2016). Therefore, it is not surprising that no significant differences were found for the positive mental health traits of belonging, identity, and self-esteem, since if one trait failed to yield significant results, it would be expected that the rest of them would fail as well.

However, this raises the question of why trauma was the only trait that had significant differences between gang members and non affiliated youth. This phenomenon may be explained in part due to the negative nature of trauma. Indeed, belonging, identity, and self-esteem are all positive mental health symptoms, but none of them produced significant results. This may be because all humans innately seek to increase positive mental health symptoms, building their senses of belonging, identity, and self-esteem. This natural drive results in a steady accrual of various positive mental health traits for most adolescents, regardless of gang affiliation. At the same time, all humans desire to avoid negative mental health symptoms, such as trauma. It is only in the added presence of stressors that trauma is able to manifest. Being a gang member might expose individuals to these stressors, violent situations, and risky behaviors that can contribute to trauma at higher levels than non affiliated youth. Conversely, coming from an environment already filled with stressors that cause trauma might drive some youth to pursue gang membership as a means of self-protection.

This leads into the issue of what kind of relationship gang affiliation has with trauma, and whether it is gang affiliation that affects trauma or trauma that affects gang affiliation. While the

survey questionnaire results revealed a correlation between gang membership and heightened trauma, they do not establish a direction for causality. Therefore, in order to better determine direction of causality, answers to free response questions from gang affiliated youth were analyzed and coded. These results showed that there is likely a bidirectional effect between gang membership and trauma, indicating that gang connections and memberships oftentimes served as both causes and coping mechanisms for trauma.

Some participants clearly voiced that they believed their affiliation resulted in their heightened levels of trauma, such as in this narrative:

“My gang used to mean family and protection, but now it stands for ignorance, violence, greed, and deception. It has negatively impacted the way I think about myself as I grew up. I have major trust issues unfortunately. I normally sabotage relationships since I feel undeserving of happiness because of my past choices. It has not benefited my mental health. It was detrimental to my psychological health. It made and amplified everything negative about my personality.”

Conversely, some participants expressed that the trauma they experienced drove them to seek community and protection through their gang connections:

“They mean a lot. They are like family. Show love and respect to one another.. Keep an eye on the ones who are around us and try to keep each other safe. It feels like the people in the gang are not bad people. I feel my people was in a situation of hunger and had no choice but to play the cards they were dealt. And that's what caused them to be in a gang.”

As exemplified in these responses, some participants believe that it is their affiliation that produced a negative impact on their mental health while other participants believe that environmental stressors and trauma drove them to become affiliated with their gangs. However, it is interesting to note that while 62.5% of gang members indicated in their responses that affiliation affected their mental health in some way, only 17.6% of gang connected youth voiced similar sentiments. On the other hand, 31.2% of gang members indicated that their mental health affected their gang affiliation and involvement, while 41.2% of gang connected youth indicated similarly. Since average levels of trauma were higher among gang members than gang connected youth, these findings may provide preliminary evidence for causal inference. This suggests that although there is likely still a bidirectional effect between affiliation and trauma, gang affiliation might play a larger role in producing elevated levels of trauma than vice versa (See *Figure 4*).

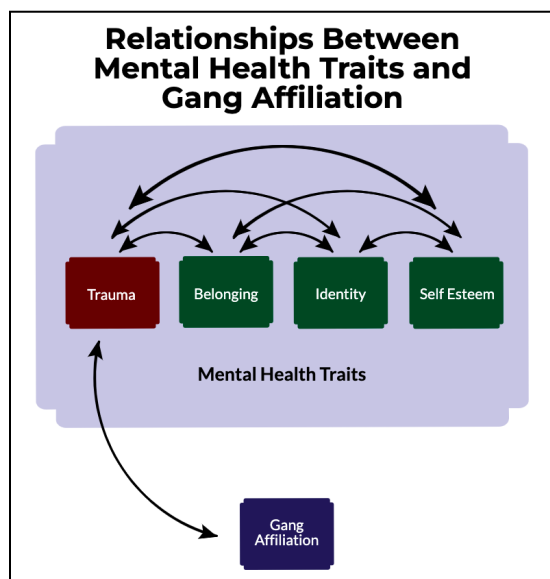


Figure 4. The arrows above the mental health traits indicate the bidirectional effects that they have on one another, which is informed through findings in the literature review. The arrow linking trauma and gang affiliation indicate that they both affect each other, which is informed through the empirical findings of this study's survey results.

Emerging Themes from the Narratives of Gang Affiliated Youth

Further analysis of themes that appeared in free response answers revealed that a majority of gang members (68.8%) referred to their gang as a family. However, none of these members expressed feeling any sense of pride in their gang. On the other hand, only 29.4% of gang connected youth referred to their gang as a family, but 11.8% boasted about their affiliation and expressed that more people should join their gang. It is also interesting to note that more gang members spoke of their affiliation in the context of feeling threats to their safety (43.8%) as well as regret for their gang activity and membership (43.8%). In contrast, only 11.8% and 17.6% of gang connected youth expressed similar sentiments, respectively. Gang members' larger relative frequencies of touching on themes of safety and regret likely explain and account for their higher average scores of trauma compared to gang connected youth. At the same time, the trauma associated with their membership might prevent them from displaying the same pride in their organization that gang connected youth express, since regret and pride are often thought of as opposite constructs.

An additional type of answer pattern also emerged, in which participants would first start by expressing their attachment to their gangs and its positive impact on them, but then end their testimonies with their gang's negative impact on them. This pattern appeared amongst 56.2% of gang members and 11.8% of gang connected youth. The following response was coded as having themes of family, threats to safety, regret, and following a positive to negative pattern:

"It means family to me. We look out for each other. We are there for each other when needed. Love all trust none. I can't really trust no one but myself so I tend to stay to myself. My gang changed me a lot. I sometimes miss the old me."

This positive to negative pattern is interesting because it would be expected that individuals who speak positively about their gang to continue to do so, just as those who start their free response answers mentioning their negative experiences or sentiments with their gang should continue their responses in a similar fashion. For so many participants to independently follow this pattern makes it appear even more notable. This pattern may have arisen due to formatting, phrasing, ordering, and interpretation of survey questions prompting participants to start their responses in a more positive light and then end in a more negative fashion. Alternatively, participants may have gradually adopted a more negative outlook towards the end of their responses because the more time they had to reflect on their answers, the more salient their traumatic and negative experiences became. If this is the case, then it should be expected that this pattern appears more frequently among gang members than it does among gang connected youth, as gang members might have suffered more trauma for them to reflect upon and share in their responses.

Conclusion

This study faces a few different limitations. Chicago is home to a plethora of gangs of all different genders and ethnicities, including all female gangs and white gangs. However, only Black and Latino male gang affiliated youth from the South Side and West Side of Chicago were sampled in this study. Additionally, participants were recruited from community organizations positioned to combat gang violence. Gang members who are more deeply entrenched in their organizations and resistant to disaffiliation might avoid these organizations, and therefore may not have been included in this study. As a result, this data is not representative of the diversity of Chicago gangs and lacks sufficient external validity. Of the 46 participants who were able to be

recruited, 10 were excluded due to incomplete or missing data. As a result of the small sample size and subsequent low power, checking the findings of the study becomes difficult.

Additionally, the study is subject to both participant and researcher bias. Since all collected data depends on self-report, results reflect the self-perceptions and assessments of the participants, rather than an objective reality. Participants who have not spent sufficient time reflecting on their mental health or with low self-awareness may not have provided the most accurate responses. Similarly, the researcher carries some level of bias due to her position of privilege compared to the participants of this study. The researcher does not share the experiences of low income, young African American men living in Chicago, being an Asian American woman from a middle class household with no previous gang connections. Consequently, personal biases have affected the research questions, the design of the experiments, and the analysis, and may have unintentionally skewed results to fit preconceived narratives rooted in white supremacy. The presence of a second researcher, especially one to establish interrater reliability when coding free response answers, may have helped alleviate this bias. Nonetheless, despite not having these experiences or coming from this community, the researcher has been incredibly blessed to be invited into this space. From brief conversations over the course of a few months, it is the young men who shared their stories who have produced the contents of this paper.

Despite these limitations, findings from this study explore the relationship between mental health and gang affiliation, revealing that Chicago youth who are gang members face significantly higher levels of trauma than non gang members. Future studies should further explore the direction of causality of the association between trauma and gang affiliation, as the preliminary evidence for causal inference is not sufficient to make the claim that affiliation

causes elevated rates of trauma. These studies should utilize in depth interviews and statistical measures such as the Granger Causality test.

With more and more adolescents joining gangs at younger ages, there is an increased sense of urgency to understand how we can better meet the mental health needs of these marginalized youth to ensure optimal adolescent development. Though there is still much work to do, the findings from the current study may someday inform research in clinical settings in developing interventions or creation of public policy in providing mental health resources for at-risk youth. Through further research on mental health and gangs, intervention development, and availability of resources, we might gradually improve the mental health outcomes of gang affiliated youth.

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Appendix 1

Gang Affiliation and Mental Health Survey

1

Gang Affiliation and Mental Health Survey

The University of Chicago



The Social Cognitive Neuroscience Lab at UChicago is conducting this survey to learn about how gangs affect the mental health of youth aged 13 to 26 in the city of Chicago. You do not have to be in a gang to complete this survey. This survey takes about 15 minutes to complete. You will receive a \$10 gift card once you finish.

All information will be kept confidential and anonymous. You get to decide whether you want to participate. If at any time you would like to stop, you are free to stop and throw away this survey. If you would still like to participate, please fill out these papers to the best of your ability. To answer multiple choice questions, mark inside the bubble. For questions in which you can pick several responses, check all the boxes that apply.

Section 1

- 1. How old are you?**

- 2. What is your gender?**
 - Male
 - Female
 - Nonbinary
 - Prefer not to say
- 3. What is your zip code?**
- 4. What is your race?**
 - White
 - Black
 - Asian
 - Native American
 - Other
- 5. What is your ethnicity?**
 - Hispanic or Latino
 - Not Hispanic of Latino
- 6. Check which type of school lunch you qualify for or qualified for in the past:**
 - Free School Lunch
 - Reduced Price School Lunch
 - I do not qualify for either of these

Section 2




2

For the following questions, please use the definitions below:

Gang: A group of people who may or may not claim control over a certain territory and participate in violent or illegal behavior. A faction is a smaller group within a larger gang

Affiliation: Having some kind of connection to a gang (e.g. you, a close friend, or someone in your family is a gang member).

7. Have you ever been affiliated or connected with a gang?

- Yes  Continue to Question 9 and finish the page.
 No  Continue to Question 14 in Section 3 of the next page.
 Prefer not to say  Continue to Question 14 in Section 3 of the next page.

8. What is the name of the gang or faction that you are or were involved with?

9. Indicate how much you agree or disagree with the following statements.

	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree
I have spent time trying to find out more about my gang.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My gang is not the same without me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My gang is different from other gangs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am happy that I am affiliated with my gang.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think a lot about how my life is affected by my affiliation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand what it means to be part of my gang.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My values and priorities come from being part of my gang.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a lot of pride in my gang.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often talk to other people about my affiliation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel a strong attachment towards my gang.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My membership in my gang gives me purpose in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My place in the world is with my gang.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. How much influence does your gang connection have on your personal identity?

- None
 Low
 Moderate
 High

3

11. To the best of your knowledge, who do you know is part of a gang?*Check all that apply.*

- My mother or father
 My brother or sister
 My cousin
 My friend
 My boyfriend or girlfriend
 Other _____

12. In a typical week, how much time do you spend with the people you indicated above or other members of gangs?

- No time at all
 A few hours each week
 2 to 3 days a week
 4 to 5 days a week
 6 to 7 days a week

13. Think about the gang you have the most connections with. What does it mean to you?*Please write at least 3 sentences.*

Section 3**14. Indicate how much you agree or disagree with the following statements.**

	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree
I feel disconnected from the world around me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even around people I know, I don't feel that I belong.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel so distant from people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have no sense of togetherness with my peers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is no one I can relate to.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I catch myself losing all sense of connection with society.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even among my friends, there is no sense of brotherhood.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My place in the world is with my peers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. What level of belonging do you have with the people you thought of in Question 14?

- None
- Low
- Moderate
- High

16. Indicate how much you agree or disagree with the following statements.

	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree
I am able to stand up for myself and what I believe in.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How I feel about myself depends on what others think of me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel I can be myself around other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I make an effort to look good.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall I feel good about my abilities compared to others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I make a mistake, it gets me down.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel useless.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall I like who I am.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am a good person who has a lot to offer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am a valuable person who is at least equal to other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How I feel about my body makes me less confident.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can achieve the things I set my mind on.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think other people like me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you are not affiliated or connected with a gang, please move to Section 4 on the next page.

17. How much influence does your gang connection have on your self esteem?

- None
- Low
- Moderate
- High

18. How does your gang connection affect how you think about yourself?

19. How does your gang connection affect how you think about other people?

Section 4

5

20. Stressful or scary events sometimes stay with people and bother them for long periods of time. Indicate how often the following things have bothered you over the last week.

	Not At All	A Few Hours a Week	2 to 3 Days a Week	4 to 5 Days a Week	6 to 7 Days a Week
Upsetting thoughts or pictures about what happened that pop into your head.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bad dreams reminding you of thing bad thing that happened.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling as if what happened is happening all over again.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling very upset when you are reminded of what happened.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strong feelings in your body when reminded of what happened (sweating, heart beating fast, upset stomach).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trying not to think or have feelings about what happened.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Staying away from anything that reminds you of what happened (people, places, conversations).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not being able to remember part of the bad thing that happened.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Negative thoughts about yourself or others (like I won't have a good life, trust no one).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Blaming yourself for what happened. Or blaming someone else when it isn't their fault.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bad feelings (afraid, angry, guilty, ashamed) a lot of the time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not wanting to do things you used to do or the things that used to make you happy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling like you are not able to have good or happy feelings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling mad. Having fits of anger and taking it out on others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doing unsafe or risky things that you would not normally do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being overly careful (checking your surroundings or the people around you often).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problems paying attention or having trouble concentrating.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trouble falling or staying asleep.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. Please make a check next to any of the events that have ever happened to you before.

Check all that apply.

- Robbed by threat or force.
- Slapped, punched, or beat up by someone in your family.
- Slapped, punched or beat up by someone not in your family.
- Seeing a family member or friend get slapped, punched, or beat up.
- Seeing someone in your community get slapped, punched or beat up.
- Someone you care about dying suddenly or violently.
- Attacked, stabbed, shot at with a gun (even if it missed), or hurt badly.
- Seeing someone attacked, stabbed, shot at with a gun (even if it missed), or hurt badly.
- Attacked, stabbed, shot at, or badly hurt someone else.
- Someone touching private parts of your body when they shouldn't.
- Someone forcing or pressuring sex.

22. If the problems you marked interfered with your life at all, mark which areas were affected.

Check all that apply.

- Getting along with others
- Hobbies and fun
- School or work
- Family Relationships
- General Happiness

23. How much anger, grief, anxiety, or fear do you think you have because of your gang connection?

- None
- Low
- Moderate
- High

If you are not affiliated or connected with a gang, please skip Question 24.

24. Mental health is your psychological or emotional wellbeing, and can be both positive and negative. How do you think your gang connection has affected your mental health? How has your mental health affected your gang affiliation?

————— End of Survey —————

Thank you so much for your participation. Please return this survey to your research administrator and collect your gift card.

If you would like to speak with a professional to emotionally process the contents of this survey, please refer to the hotlines below:

Victim Support Services: 425-252-6081

The Youthline (teen to teen peer support): 877-968-8491 or text TEEN2TEEN to 839863

NAMI Chicago Hotline: 833-626-4244 or text NAMI to 741741

City of Chicago Domestic Violence Helpline: 1-877-863-6338

Chicago Rape Crisis Hotline: 888-293-2080

National Sexual Assault Hotline: 1-800-656-4673

Illinois Helpline for Opioids and Other Substances: 1-833-234-6343

The Trevor Project (support for LGBTQ+ youth): 1-866-488-7386 or text START to 678678

National Suicide Prevention Lifeline: 1-800-273-8255

If you completed this survey outside of our testing facilities, please return the completed survey using the pre-paid postage return envelope that has been provided for you, and you will receive your gift card in the mail in 5 to 7 business days. If you have misplaced your envelope, please mail it to:

Attn: Social Cognitive Neuroscience Lab
University of Chicago
5848 S University Ave.
Chicago, IL 60637

For further questions about this research study, please contact joyhsu@uchicago.edu

Table 1

Descriptive Statistics of Scores from Mental Health Traits

	Belonging	Identity	Self Esteem	Trauma
Mean	10.47	22.85	41.43	28.2
1st Quartile	4	16.25	35.5	14
Median	8.5	21	46	26
3rd Quartile	16	30.25	48	41.5
Standard Deviation	8.82	11.84	9.18	17.22
Range	32	42	36	65

Table 2

Differences in Mental Health Traits when Comparing Level of Gang Affiliation vs. No Gang Affiliation

		Estimate	SE	t value	p value
Belonging	Gang Connected	13.43	3.62	1.28	0.21
	Gang Member	13.05	3.74	-0.1	0.92
Identity	Gang Member	25.25	4.67	0.957	0.348
Self-Esteem	Gang Connected	43.58	3.94	1.27	0.21
	Gang Member	46.11	4.07	0.62	0.54
Trauma	Gang Connected	29.29	6.78	1.56	0.13
	Gang Member	46.05	7.15	2.34	0.03

All values for the estimate are being compared to the scores of non gang affiliates, except for Identity, which is being compared to the scores of gang connected youth.

Figure 1

Mental Health Trait Scores by Level of Affiliation

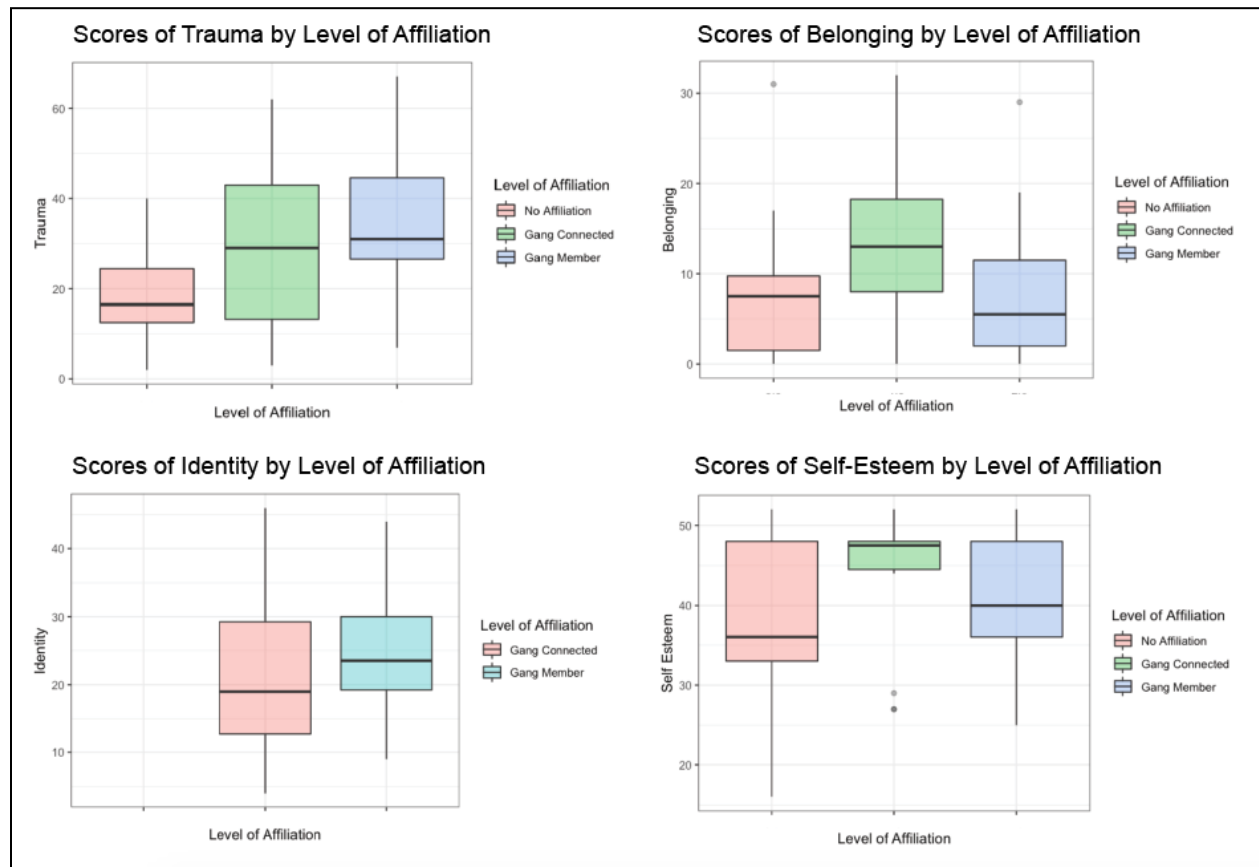


Figure 2

Relative Frequency of Gang Affiliated Youth Mentioning Relevant Themes

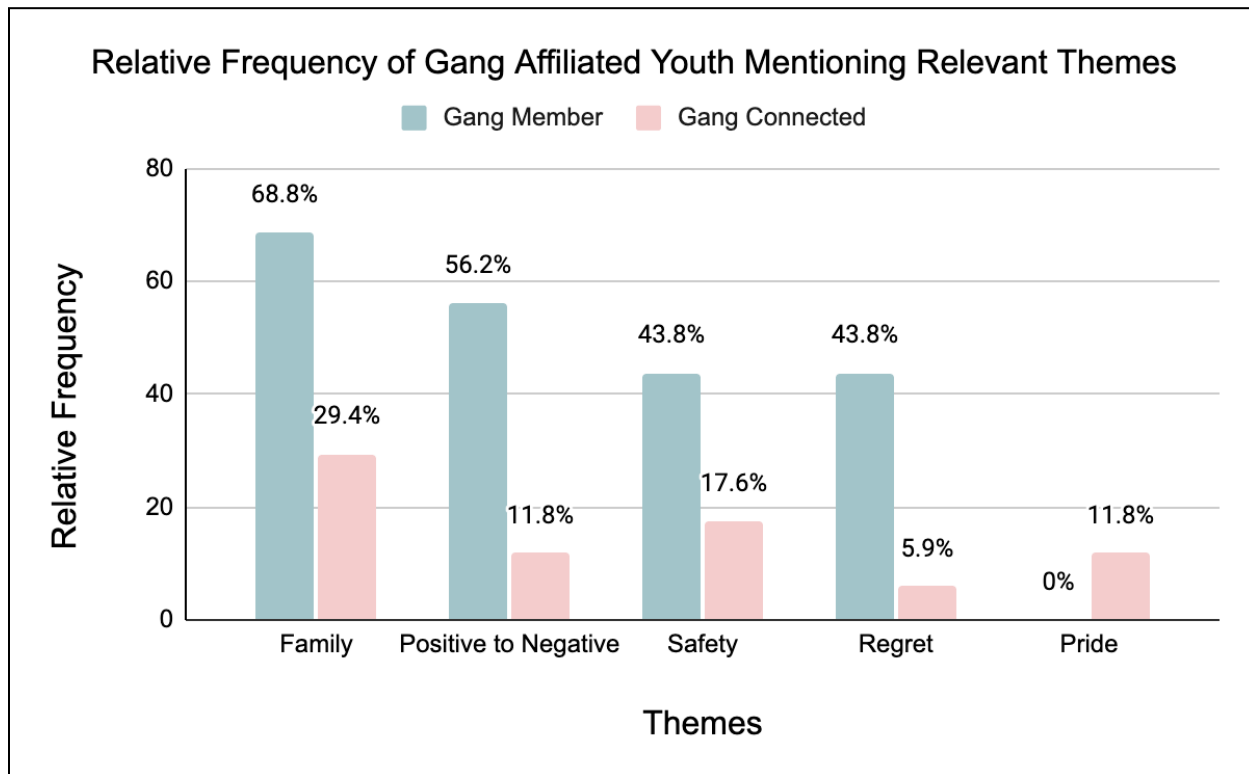


Figure 3

Relative Frequency of Gang Affiliated Youth Discussing Relationship Between Affiliation and Mental Health

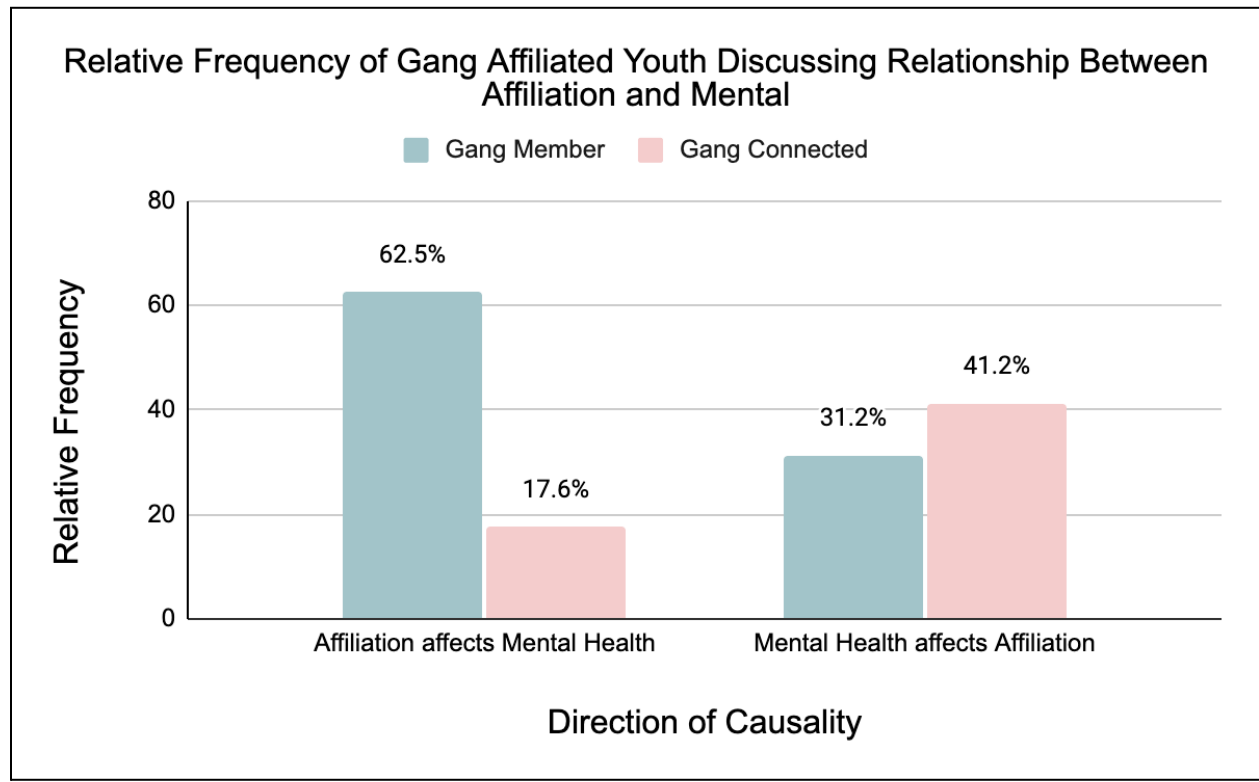


Figure 4

Model of Relationships Between Mental Health Traits and Gang Affiliation

