

## Essay

## Kendrick Lamar, street poet of mental health



Kendrick Lamar has received critical acclaim as the hottest hip-hop artist of the past decade. A native of Compton (California, CA, USA), he has had a meteoric rise over the past 3 years. He released his major-label debut album *good kid m.A.A.d. city* (acronym meaning “my angry adolescence divided”); “my angels on angel dust”) in Oct, 2012, which *Rolling Stone* considered “worth all the hype”, describing Lamar as “a dazzling street poet” unlike any other from his generation. This album covers the trials and tribulations of an adolescence spent in an inner-city subculture of violence and drugs. His heavily anticipated sophomore album *To Pimp a Butterfly* was released in March, 2015, and was viewed by many critics as a masterpiece covering even wider subject material, such as the sociopolitical struggles of African-Americans growing up in America, the pressures that come with success, racism, black empowerment, and spirituality. *To Pimp a Butterfly* showcases a diverse array of musical and artistic genres, including jazz, hip-hop, blues, and spoken-word, and an interlaced poem that develops through the album. To that, we would add that Lamar’s rich narratives relate to important mental-health themes, including addiction, depression, and resilience. As co-founders of a social venture called Hip Hop Psych, we are interested in interpreting hip-hop lyrics through the filters of psychiatry and the neurosciences. In this essay, we offer a glimpse into our work through the dissection of Kendrick Lamar’s conscious lyricism.

The song “Swimming Pools”, from *good kid m.A.A.d. city*, is about addiction. The title serves as a metaphor for alcohol misuse during adolescence. Kendrick’s character is among his peers in a social gathering where alcohol is freely available. From the very outset, Kendrick paints a picture of alcohol misuse with the repetitive use of key words: “...pass out, drank, wake up, drank, faded, drank, faded, drank.” In the first verse, Kendrick’s character describes and relates to the biopsychosocial model of alcohol misuse; eg, he describes the reasons people drink alcohol—because they like “the way it feels” (biological), to “kill their sorrows” (psychological), or to “fit in with the popular” (social). These mechanisms have been underlined in a review, which also discusses neural correlates and environmental factors that are relevant to alcohol misuse.

The second verse could be read, from a neuroscientific point of view, as a conflict between the reward and pleasure pathway of the character’s mesolimbic system (“I got a swimming pool full of liquor...I’mma dive in it”) and the executive functioning of his prefrontal cortex (“I’mma drown in some poison abusin’ my limits”), which warns him of the dangers of getting intoxicated. The lyrics portray the character as being at a neurodevelopmentally sensitive

and vulnerable crossroads at which there is potential for him to develop future adult alcohol-dependence if he continues to follow this pattern of misuse—or by contrast, he might be experiencing resilience, brain maturation, synaptic reorganisation and, in particular, strengthening of inhibitory projections in his prefrontal white matter. Kendrick’s character’s prefrontal cortex even gets to speak a few lines, as the clear, penetrating voice of his conscience: “if you do not hear me then you will be history, Kendrick.”

But what about the backdrop to the conflict for Kendrick’s character? “Swimming Pools” emphasises genetic risk factors for alcohol misuse, referencing a history of alcohol misuse in the character’s family, specifically his grandfather who “had the golden flask”. The album cover of *good kid m.A.A.d. city* shows Kendrick’s grandfather and two uncles sitting at a table with the young Kendrick, a child who is notably within reach of a 40 oz bottle of malt liquor beer. During an interview Kendrick commented on this image, “...that photo just says so much about my life and how I was raised in Compton, and the things I’ve seen through innocent eyes.” Environmental factors such as early-life exposure to alcohol and degree of parental monitoring of alcohol interact with genetic factors to affect the risk of alcohol misuse and dependence. Kendrick Lamar’s lyrics indirectly map onto research that examines gene-by-environment interactions of alcohol misuse. For example, the reported association between a genetic variant of the  $\mu$ -opioid receptor gene (*OPRM1*) and early-onset alcohol misuse seems to be partly moderated by the degree of parental monitoring of alcohol intake; another study examined the relationship between alcohol misuse in adolescence, family conflict, and a gene variant in the serotonin system. More directly through these lyrics, however, we understand the powerful influence of peer pressure. Research shows that risk-taking and impulsive behaviour in adolescent males is increased in the presence of peers, as shown by simulated driving experiments; therefore, since Kendrick’s character expresses concern about social pressures, such pressure might further increase his risk of misusing alcohol because of detrimental social interactions and not choosing environments that are protective.

Much like the metaphor of drowning in a swimming pool full of liquor, the theme of alcohol misuse continues to develop in the song “u” on Kendrick’s second major-label album, *To Pimp A Butterfly*. His character here seems to be drowning his sorrows, enhanced by the sound effects of clinking bottles. The setting for this track involves Kendrick’s character, a successful hip-hop artist, who is alone in his hotel room, intoxicated with alcohol,



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For additional reading and references see Online for appendix

For Kendrick Lamar’s music and videos see

<https://www.youtube.com/user/KendrickLamarVEVO>

For more on Hip Hop Psych see

<http://www.hiphopsych.co.uk> and *Lancet Psychiatry* 2014;

1: 494–95

For the review on

alcohol misuse see *Nature* 2014; 512: 185–89

For more on the **International Classification of Diseases revision 10** see <http://apps.who.int/classifications/icd10/browse/2015/en>

For more on the **default mode network** see

*PLoS One* 2014; **9**: e91102 and *Biol Psychiatry* 2015. DOI:10.1016/j.biopsych.2015.02.020

For more on the **research by Beck and colleagues** see

*Arch Gen Psych* 1963; **9**: 324–33 and *J Consult Clin Psychol* 1989; **57**: 309–10

For the **review on depression and negative bias** see

*Curr Opin Psychiatry* 2006; **19**: 34–39

For the **study on spirituality and resilience** see

*Am J Psychiatry* 2008; **165**: 1566–1575



and talking to himself in the mirror. He might have clinical depression; he certainly describes International Classification of Diseases revision 10 symptoms of low self-confidence and low mood: “the world don’t need you...I know depression is restin’ on your heart.” But what is the neuroscience behind this? We speculate that Kendrick’s character is having increased activation of low-frequency brain oscillations in his brain’s default mode network, which is a network of brain regions including the medial temporal lobe, medial prefrontal cortex, and posterior cingulate cortex that is activated when an individual is not engaging with the outside world (eg, during daydreaming, perspective reflection, or introspective thinking). The default mode network has been studied in patients with major depressive disorder. Based on the ruminative style of the narrative throughout this song, we suggest that Kendrick’s character might have a hyperactive and hyperconnected default mode network, and increased functional connectivity between the default mode network and his subgenual prefrontal cortex. This spiral of rumination is associated with the character’s hopeless and subsequent suicidal thoughts; not a surprise given prior research by Beck and colleagues, which showed that hopelessness is a strong predictor of suicide. Beck also describes cognitive distortions that are found in Kendrick’s lyrics; eg, his character has a tendency to magnify his failures—in this case, his absence at his dying friend’s bedside—and minimise his successes (“You preached in front of 100 000 but never reached her”). Furthermore, the character draws attention to so-called black and white thinking, which is a tendency to think in absolutes. Throughout the song, Kendrick’s character believes that he will be judged either as a total success or a total failure; he seems to be more focused on negatives than positives. This type of thinking relates to studies reviewed by Leppanen and colleagues, showing that patients with depression show a negative bias when interpreting stimuli that are intended to be ambiguous.

The polar opposite of the song “u” comes later in the album through the song “i”, which is full of optimism, confidence, self-efficacy, and self-empowerment. The song refers to resilience factors for the resolution and prevention of depression and suicidal thoughts. For example, Kendrick’s character reveals a strong internal locus of control. The psychologist Julian Rotter described this as a tendency for an individual to believe they can control events affecting them. Kendrick’s character uses this concept to stay positive in the face of adversity. Resilience factors against stress are also evident. These include optimism (“one day at a time, sun gone shine”); cognitive reframing, translating stressful, negative, and depressing thoughts into more positive and beneficial alternatives, and a resolution to love himself irrespective of life’s challenges; mastery; and stress inoculation. Through the anaphoric reference hook of this song—“I love myself”—Kendrick’s character discusses the problems he faces in his environment and his ability to adapt and overcome them. Kendrick’s character reveals that his belief in God has helped him to overcome his personal traumatic experiences: “trials, tribulations, but I know God”. Similarly in this context, a study of African-American adults who had suffered trauma showed that a higher frequency of attendance of religious services was a protective factor against psychiatric morbidity.

Kendrick Lamar’s lyrics have underlined several psychiatric themes around addiction, depression vulnerability, and resilience against stress and depression. How might this help with the pressing problem of mood and other disorders among young people in harsh, urban environments? First, listening to Kendrick Lamar might help mental-health practitioners and other professionals to understand the day-to-day internal and external struggles of their patients. Hip-hop might also be a way for young people to understand and consider their own vulnerability, resilience, and life choices in a culturally relevant and easily accessible manner.

Kendrick Lamar’s rich narratives take his listeners on a complex journey, entrenched with conflict and social pressure, describing what life is like growing up as an inner city youth. His character’s powerful ability to navigate his mind, body, and spirit through life’s obstacles to overcome environmental factors stacked up against his innocence has inspired a generation, and will continue to do so. We highly recommend that, as we are doing, you explore the remaining songs from these albums and connect with Kendrick’s message of resilience against the odds, something which goes far beyond the boundaries of Compton and hip-hop. As Kendrick himself put it: “At first, I was scared to show fear because you can never be sure how people will perceive you. But I dared myself to do that, to stand out.”

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