

The Use of PBA in *Joker* 2019 Contradicts Ideology that Laughter is Beneficial to One's Health

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ABSTRACT

For decades, going on centuries, popular notion has driven the idea that laughter is the best medicine, however that may not always be the case, and such a notion should be broken down. Previous studies have mostly focused on benefits of laughter, such as its abilities to decrease stress and increase life expectancy, but these studies focus only on positive laughter. However, laughter can also come from a negative space, such as laughter meant to mock or cause harm. Negative laughter can even arise as medical symptoms due to neurological disorders. In this paper, we dissect Todd Phillip's use of the neurological disease Pseudobulbar Affect (PBA) in the 2019 film *Joker*, a disorder that causes uncontrollable laughter or crying that juxtaposes against the victim's emotions. We first use previous studies and scenes in the film to diagnose the Joker with PBA, and explain what PBA is. We discuss the numerous types of literature that pushes out the idea that laughter can always be used for good, and we set them aside studies that say otherwise, alongside discussing the numerous views that have arisen due to common themes in media and the stigmas surrounding mental health. Altogether, we found that while laughter can have both positive and negative connotations, and that it's important to understand the stigma surrounding either side, or any mental illness.

Introduction

Your eyes scan the room. Oh, what a pretty young lady to the left, the type you'd dream of. You turn your head and see a rather stern-looking man on the right, the type you'd keep clear of. You look down at your notebook, filled with jokes you've been preparing for months. You clear your throat and smile, still giddy with excitement about your chance to perform at the famed Pogo's Comedy Club, "to bring laughter and joy into this cold, dark world" (Phillips & Silver, 41). A deep breath in from the nose and— Out of nowhere, a violent laugh bursts from your chest. Your eyes blur with fear as yet another laugh erupts, and more, and more, and a tear trickles down your face as you continue to cackle while the audience looks on, confusion written all over their faces. Time and time again, the notion that laughter is the best medicine pops up in research papers, news articles, and movie quotes. Even now, "empirical evidence has emerged to affirm that humor and laughter may ameliorate pain, alleviate stress, and promote functioning of the immune system" (Panksepp, 185). Panksepp is showing support for the well-known idea that laughter is the best medicine, but like others who have shown support for the claim, he overlooks a severe deviation: The Pseudobulbar Affect. The Pseudobulbar Affect (PBA) affects "2 million to 7 million people in the United States" (Cleveland Clinic) alone, affecting an incredibly large percentage of the worldwide population.

Those with PBA are distinguished by their hysterical and uncontrollable bouts of laughter, especially in times of extreme emotion such as stress. Throughout this essay, we will use PBA as a retort to Panksepp's claim, centering ourselves around specific scenes that portray exactly why laughter isn't always beneficial to personal physiological health. In one of these scenes, the main character Arthur Fleck (also referred to as the Joker) has been given his first chance to perform a stand-up routine at Pogo's Comedy Club. However, as he begins his long-planned act, his PBA kicks in, most likely because of a build-up of factors such as nervousness sparked by his stage fright. The laughter gets progressively worse, eventually reaching a point so dire that Arthur puts his arms around his neck and attempts

to choke himself to stifle his laughter.

PBA itself is characterized by sudden and uncontrollable bouts of emotion, such as laughter or crying, that are in juxtaposition with the emotions being felt. “The degree of the emotional response caused by PBA is often striking, with crying or laughing lasting up to several minutes”, with a perfect example being the differing lengths of laughter episodes dispersed throughout *Joker* (Mayo Clinic, “Pseudobulbar affect”). While Arthur Fleck is riding the bus after being beaten up by a group of teenage boys, he begins playing peek-a-boo with a young boy.

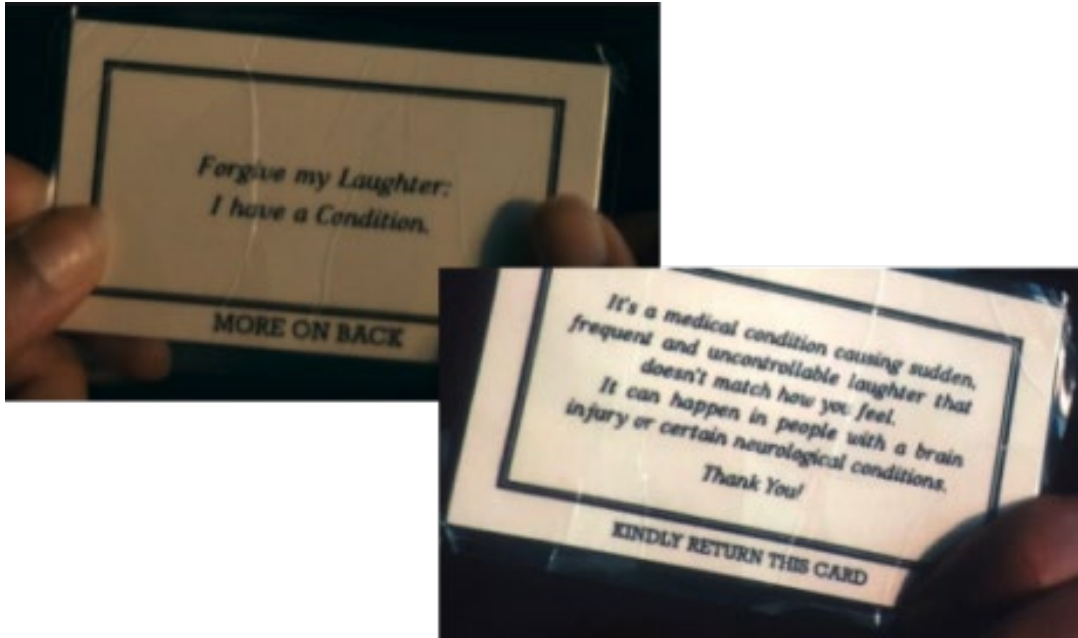


(Warner Bros)

However, after being told off by the mother of the young boy, Fleck begins to argue that he had no ill intentions, but at that very moment, his PBA is triggered.

AND SUDDENLY ARTHUR STARTS TO LAUGH. LOUD. He covers his mouth trying to hide it-- Shakes his head, laughter pausing for a moment, but then it comes on stronger. His eyes are sad. It actually looks like the laughter causes him pain (Phillips & Silver, 6).

The mother misjudges the laughter, believing that Fleck finds the argument humorous, and confronts him, saying “You think that’s funny?” Fleck, unable to control his laughter, passes a card explaining his condition. However, the mother doesn’t read it. She assumes that laughter stems from humor, a perfect example of how embarrassing episodes of PBA can be in a world where laughter is constantly connected to hilarity.



(Warner Bros)

Meanwhile, Fleck continues to laugh uncontrollably, as “he pulls up his red hood, and uses his threadbare scarf to cover his mouth, trying to muffle the laughter” (Phillips & Silver, 2018). The length of Fleck’s episode, the extremity and uncontrollability, and the severe misunderstanding of Fleck’s condition perfectly characterize how painful episodes of PBA can be and how misunderstood it is through a social lens.

Biological Basis

PBA itself is a relatively misunderstood disorder, however, as far as mental illnesses go, it’s especially unknown in terms of its biological basis. The exact cause for PBA is unknown, but “a prevailing hypothesis is that PBA involves a loss of descending control of brainstem motor systems that control emotional expression, i.e., the corticobulbar tracts. According to this hypothesis, PBA arises when the voluntary pathway is disconnected and releases the involuntary connections to the laughing and crying center in the upper brainstem” (Lindqvist & Reus, 244), visualized at the top of page 4. It’s important to recognize that several other neurological problems occur because of episodes of PBA due to the disconnection of the motor systems. We interviewed neuroscientist Diane Rogers to help us better understand the neuroscience behind PBA in layman’s terms. “To put it simply, PBA is when there’s a disconnect between what you’re feeling internally and what you express outwardly. You have all this built-up emotion within you and then your brain is unable to decipher whether this emotion should be expressed via laughter, crying, etc.” Although we’ll be focusing on those with PBA suffering from bouts of laughter when sad or uncomfortable, PBA may also lead to hysterical crying when happy.

Diagnosis

Xavier Merchán-del-Hierro et al., researchers in MITRE’s (one of the leading organizations in carrying out government research) Department of Neurology, diagnose Arthur Fleck with several possible neurological disorders, saying all of them hold water. They diagnose Fleck given the symptoms seen throughout the many episodes portrayed throughout the movie, such as during the stand-up comedy scene. In the Pogo Comedy Club scene, Fleck appears distressed when he begins to laugh, and his laughter significantly affects his comedy routine, resulting in “dead

silence.” Fleck is also unable to control his laughter, with his laughter continually breaking through while he attempts to tell his joke. “The above-mentioned characteristics make the Joker’s laughing episodes compatible at first sight with the pseudobulbar affect, a clinical entity characterized by episodes of exaggerated or involuntary expression of emotions, including uncontrolled laughing or crying” (Merchán-del-Hierro et al, 513). These researchers even go so far as to explain the possible cause for the Joker’s PBA, saying “traumatic brain injury could be assumed to be a potential etiology of the case in the Joker movie, given that Arthur Fleck was a victim of severe physical abuse during his childhood” (Merchan...513). Several signs point towards Fleck having PBA, from his uncontrollable bouts of laughter to brain trauma in his past, a common cause of PBA. Even Fleck himself explains his condition, which he keeps written on the double-sided card shown previously.

This card gives some of the most compelling evidence that Arthur is indeed affected by PBA. He practically carries the Google search result for the Pseudobulbar Affect in his pocket. When one searches for PBA disorder, the following Mayo Clinic definition returns: “Pseudobulbar affect (PBA) is a condition that’s characterized by episodes of sudden uncontrollable and inappropriate laughing or crying. Pseudobulbar affect typically occurs in people with certain neurological conditions or injuries, which might affect the way the brain controls emotion” (Mayo Clinic). Several keywords are extremely similar when compared in both the medical definition and the notecard, such as “condition,” “uncontrollable laughter,” and “certain neurological conditions or injuries” (Warner Bros). While circumstantial evidence such as this might not give a proper diagnosis on its own, despite the connection being easily visible, when paired with the diagnoses of top researchers, we can easily conclude that Arthur Fleck has PBA.

Pogo’s Comedy Club

In this section, we focus on and break down a prime example of the Joker’s PBA affecting his physical and societal health, a segment of the film completely shatters the presumption that laughter is the best medicine. While we briefly touched on this specific scene in section 3, let’s take a deep dive right into the source material, the script itself.



(Warner Bros)

INT. STAGE, COMEDY CLUB - CONTINUOUS

ARTHUR STEPPING ON STAGE, out under the spotlight, lifts the microphone in front of his mouth, the light so bright he can't see faces in the dark audience, his hand trembling holding onto his worn notebook— He takes a deep breath, looks out at the dark crowd, and opens his mouth.

AND STARTS TO LAUGH. His eyes go wide. God no, not now. A terrified look comes to his face under the laughter. He just keeps laughing. The crowd is just staring back at him.

Finally, he composes himself–

ARTHUR

(trying to stop himself
from laughing)

-- good evening, hello.

(deep breath; trying to
stop laughing)

Good to be here.

(keeps cracking up)

I, I hated school as a kid. But my mother would always say,--

(bad imitation of his mom,
still laughing)

"You should enjoy it. One day you'll have to work for a living."

(laughs)

"No I won't, Ma. I'm gonna be a comedian!"

Arthur keeps cracking up. Hard to hear anything or anybody else. He goes through his notebook trying to find another joke–

ARTHUR

(reading verbatim)

It's funny, I was thinking the other day,-- Why are rich people so confused by the poor people?

(silently counting to three)

Because they don't make any sense! (41-42)

When sifting through the dissected pieces of this excerpt, searching for the causes and consequences of Fleck's PBA episode, we note the most likely trigger. As this is Arthur's first time performing in front of a live audience, including his love interest Sophie, the pressure of a failed, humorless act, weighed on his mind, characterized by "his hand trembling" (41). Even more interesting is how Phillips and Silver say Arthur is "out under the spotlight" (41), a possible allusion to Arthur putting his mental illness on display to a crowd of people who most likely don't know that Arthur has a condition, or what it is. PBA is so rarely spoken about that information about the disorder is the 29th link returned when entering the query "pba" into Safari; the Professional Bowlers Association, Palm Beach Atlantic University, and the Police Benevolent Association all return before the Pseudobulbar Disorder. Once his PBA has been triggered, we can see the effects, all negative, of Fleck's PBA episode on his mental and physical constitution. He briefly whispers a hello, but before he can articulate anything else, laughter begins to erupt from his throat. If you slowly move through the few seconds between Fleck's barely audible "hello" and his episode, you can see the "terrified look [that] comes to his face under the laughter" which completely wipes away the slight smile he had on his face. From there the episode, which lasts a full 53 seconds, only gets worse and worse. Consisting of visibly painful laughter (Fleck clutches at his neck several times) interspersed with sounds of choking and gasps of air, Fleck is forced to smother, almost crush, his face with the insides of his elbows in an attempt to silence the laughing. All the while he attempts to tell his first joke, a self-deprecating jest at his profession (hinting towards Fleck's low perception of his self-worth which is a symptom of depression), yet his joke garners no laughter whatsoever. This one point collapses the bases on which "laughter is the best medicine" is founded, or even the idea that laughter and humor are the same things. If Fleck is laughing, why isn't the crowd?

Two Sides to The Coin

PBA is a direct contradiction to existing research literature which generalizes their findings to laughter as a whole. For example, the following quote, from *The Therapeutic Value of Laughter in Medicine* by Dr. Ramon Mora-Ripoll,

a medical scientific director at Organización Mundial de la Risa, Barcelona, Spain, compiles previous empirical evidence into an overall conclusion.

First, laughter can lead to direct physiological changes to the muscular, cardiovascular, immune, and neuroendocrine systems, which would have immediate or long term beneficial effects to the body. [...] Secondly, laughter can lead to more positive emotional states, which also may have direct benefits to health or contribute to a personal perception of better health or quality of life. [...] Third, laughter can optimize one's own strategies for coping with stress and strengthen personal pain tolerance, which may reduce the negative impact on health benefits that both can have. According to this stress-moderator model, which provides indirect effects, laughter during non-stressful times would be less relevant to health. Finally, laughter may indirectly increase one's social competencies, which as a result may increase interpersonal skills (57-58). Mora-Ripoll says that laughter can have beneficial physiological effects on the body. However, in a journal of PBA patient experiences, one patient recounts their experience with PBA, saying "It's just so tiring, not being able to control your emotions" (Turell et al., 1327), the very opposite of the "immediate or long term beneficial effects to the body" Mora-Ripoll describes. We also find that "PBA has been associated with a higher prevalence of diagnosable psychiatric disorders, and about 30%–35% of patients with PBA are depressed" (Ahmed & Simmons, 483-484), directly contrary to a better quality of life. "[PBA's] impact is substantial, resulting in embarrassment for the patient, family, and caregivers with subsequent restriction of social interactions and a lower quality life" (483). Mora-Ripoll also claims that laughter increases one's ability to cope with stress, yet one criterion for diagnosing PBA is that its "episodes cause clinically significant distress or impairment in social or occupational functioning" (Miller et al., 1078). In a closing statement, Mora-Ripoll affirms that laughter can increase interpersonal skills. As seen throughout *Joker*, and as seen in evidence given throughout this essay, we find that is rarely the case when dealing with fits of PBA. One simply has to look at the previously-mentioned excerpt from *Joker's* script as Arthur prepares to tell his jokes to a crowd of people on the stage of Pogo's Comedy Club: "AND STARTS TO LAUGH. His eyes go wide. God no, not now. A terrified look comes to his face under the laughter. He just keeps laughing. The crowd is just staring back at him" (43). Instead of laughing with Arthur as one might expect in response to laughter, the crowd simply stares back at him. This is exactly what one might expect as a stand-up comedian with increased interpersonal skills, as comedy interspersed with light laughter between jokes is used to elicit laughter. It does the opposite when it comes to PBA.

Despite movies such as *Joker* shining the spotlight on the double-edged sword that laughter is, the vast majority of scientific literature continues to propagate a generalized definition. "The idea that laughter is good for one's health can be traced to biblical times and was revived periodically by various physicians and philosophers through the centuries" (Martin, 216). We see a perfect example of the many research articles and science-backed media pushing the positive effects of humor in the basic yet powerful title of *Laughter is the Best Medicine*, published in the highly influential journal *American Journal of Nursing*. The authors, Dr. Pattillo and Dr. Itano, are both respected in their field, with Pattillo being a radiation oncology nurse and Itano being the department chair and associate professor in the Department of Nursing at the University of Hawaii, Manoa School of Nursing and Dental Hygiene, Honolulu, HI. Throughout this article, Dr. Pattillo and Dr. Itano take the accounts and findings of previous scientists and affirm that the effects of laughter are positive, mostly on the physical well-being of the body. Their thesis "humor used therapeutically can enhance a patient's well-being" (Pattillo & Itano, 40) may have salt given the right data. Still, their research surrounds the positive physical effects of *laughter* and not humor.

Most research on humor focuses on the physical effects of laughter, noting physiologic changes such as increases in heart rate and blood pressure, followed by relaxation and a decrease in blood pressure. Stimulation of the circulation enhances metabolic and immune responses, and laughter is believed to improve digestion and reduce muscle tension. Laughter's effects have been described as an "internal jogging," as it also helps clear the lungs and airways with a deep exhalation and inhalation, and acting as a stimulation of cough. Laughter has been shown to increase pain tolerance, and although unsubstantiated, it is commonly held that laughter releases endorphins, the body's natural analgesic (41).

In many scenarios, laughter seems to have positive effects on our health, but Pattillo and Itano overlook the many negative forms of laughter, from laughter used to mock or harm others, to laughter caused by PBA.

As many different sources highlight the positive benefits of laughter, we find not only academic journals sharing this idea but anything from news articles to books. For example, in *Laughter Might Actually Be the Best Medicine*, by Liz Scherer, a prominent wellness journalist, the article's title makes it painfully clear that the thesis will be about laughter being the best medicine. Indeed, while we look through this article, we find quotes such as:

Laughter ranks fairly high in the medicine toolbox, with research suggesting that it induces a wide variety of benefits that range from stress reduction and improved breathing to providing an extra boost to the body's immune system and increasing pain tolerance. But one of the most important benefits of laughing may be its positive effects on mental health and the ability to cope with the multitude of life's curveballs, especially as we grow older (Scherer).

However, as highlighted throughout this essay, we see that not all laughter reduces stress and improves breathing, as visited during the Pogo's Comedy Club scene, where Arthur takes a "(deep breath; [while] trying to stop laughing)" (Phillips & Silver, 42). Uncontrollable laughter for long periods makes it difficult to breathe, doing the very opposite of what Scherer says in the above article. However, while looking through Scherer's piece, we notice a particular section placed right in the middle of the paper.

The first step to harnessing the power of laughter is to understand the language of laughter. Laughter can be self-induced at will without a humorous or funny prompt. Laughter can be stimulated by physical contact (e.g., tickling), or induced by drugs (e.g., laughing gas or nitrous oxide during dental procedures). Laughter can also be caused by alterations in the body's nervous system or due to mental health conditions. This form of laughter is called pathological laughter. But as far as health and well-being go, the most important type of laughter is the one that people are most familiar with, which, according to a 2021 review (Stiwi & Rosendahl), is genuine or spontaneous laughter. This is the type of laughter that is triggered by an outside stimulus such as a funny joke or brought about through positive emotions (Scherer).

Perhaps the most important section of the entire article, the above paragraph, culminates one of the most important components of an essay on laughter; its definition. Without a proper definition of *what type of laughter is referenced in the text*, arguments can easily become invalidated, and the notion of "laughter being the best medicine" can quickly spread while carrying the infectious idea that all laughter is beneficial. So while we continue to analyze the numerous papers on laughter, we begin to see that laughter "that is triggered by an outside stimulus such as a funny joke or brought about through positive emotions" tends to be beneficial, while pathological laughter is not.

On the other hand, several diagnoses and background articles we've come across during our research have shown how harmful the effects of PBA's laughter can be, directly opposing the findings of previous researchers such as Dr. Pattillo and Dr. Itano. "Severe symptoms of pseudobulbar affect (PBA) can cause embarrassment, social isolation, anxiety, and depression. The condition might interfere with your ability to work and do daily tasks, especially when you're already coping with a neurological condition" (Mayo Clinic). While PBA may not be as widely recognized as major neurological disorders such as Bipolar Disorder or Schizophrenia, depending upon the scoring criteria used for the online instruments, prevalence rates [of PBA] ranged from 9.4%–37.5%, resulting in an estimated 1.8–7.1 million affected individuals in the USA. Even if the lower estimate is accepted as being the most accurate, PBA is certainly a significant national health issue in the USA, occurring in greater numbers than Parkinson's disease, MS, or ALS (Ahmed & Simmons, 484). This only outlines the importance of commentaries like *Joker*, along with how misunderstood PBA is to the general population and scientists alike. However, perhaps the most important is to ensure that the creators of *Joker* correctly displayed PBA. As with all controversial discussions, differing views on this issue have emerged.

Mental Health in Cinema

Representation of mental illnesses in film and television has been a hot topic since the dawn of Hollywood, ever since Nunnally Johnson wrote, produced, and released the controversial *The Three Faces of Eve* in 1957, one of the first cinematic representations of mental illness to be released to the general public. However, critics heavily flagged this movie for “how it showcases the therapeutic process. In the film, Woodward’s character sees a psychotherapist and all of her trauma is ‘resolved’ in a few sessions” (Martinie, 2022).



(IMDb)

Psychologists and fans alike have made similar attacks on the representation of mental health in *Joker*. To hear from someone whose expertise revolves around the representation of mental illness across global digital media, we interviewed Dr. Kalpana Srivastava, president of the Indian Association of Clinical Psychologists, on her thoughts on the depiction of mental illness in *Joker*. “A dangerous implication in the movie is its contribution to the social connection of mental health illness to violence. Unlike what someone may gather from the *Joker*, many people with PBA live fruitful lives and have a handle on their symptoms,” said Srivastava. With statistics such as about 2 in 5 prisoners having a history of mental illness (NAMI) being spread like wildfire across social media, we as a society have cultivated a stigma surrounding those suffering from mental illness being seen as psychotic and violent. In *Joker*, many of Arthur’s violent actions take place in the midst of what seems to be a PBA onslaught, which further adds to existing stigmatization. “One of the more toxic ideas that Joker subscribes to is the hackneyed association between serious

mental illness and extreme violence” (Driscoll & Husain). So would our argument, that Phillips’ use of PBA in Fleck highlights the negative aspects of laughter, completely collapse because *Joker* might not fully capture PBA as it is? We say otherwise.

The Man Behind the Smile

Even with an over-the-top portrayal of PBA in *Joker*, as noted by Srivastava, it still brings to light the serious effects PBA can bring upon those afflicted and how important it is to change our understanding of laughter. Laughter has always had two sides to its coin. On one hand, we use laughter to bring joy and to make peace, but on the other, we can mock and ridicule others, and smiles can be paired with laughter either as a tool to hide true emotion or to spread cheer. As seen in Lesley Lyle’s *Laugh Your Way to Happiness*, “Smiling is an expression used to display pleasure, happiness and amusement, but we can also smile when we are anxious” (75). Lyle finds that laughter and smiling are strongly linked, saying that “after laughing, people tend to keep a smile on their face, and this may be a visual clue to its lasting positive effect on the mood” (164), once again linking laughter to a feelgood emotion. In the scholarly article “Laughter,” a massive documentation of the understandings and definitions of laughter, Professor Robert Provine, professor of neurobiology & psychology at the University of Maryland, finds that:

Laughter is a decidedly social signal, not an egocentric expression of emotion. In the absence of stimulating media (television, radio or books), people are about 30 times more likely to laugh when they are in a social situation than when they are alone. Indeed people are more likely to smile or talk to themselves than they are to laugh when they are alone. Aside from the obvious implication that sociality can enhance laughter and perhaps one’s mood, these observations indicate that laughter has a social function (Provine, 41).

Provine finds that laughter and smiling are separate yet still connected, finding that laughter is a mostly social signal. Generally connected with a positive mood, we laugh to show good-heartedness in response to a joke or humor in all social interactions. Provine finds that laughter is contagious, stemming from a possible auditory feature that processes the *type* of incoming laughter, whether it is malicious or wholesome, and that feature decides whether laughter should be produced. “This mechanism, involving a laugh detector that drives a laugh generator, may be the foundation of contagious laughter” states Provine. This would be the perfect explanation for why the common response to the Joker’s laughter during his comedy routine is “dead silence,” despite the continuous laughter. Despite the Joker’s apparent positive view of the comedy routine once the act is finished, Sophie, Fleck’s friend/love interest is shown in the script not to have laughed the entire time, while “the first time she’s laughed all night” (Phillips & Silver, 46) being when Fleck trips and falls. Laughter is differentiated within the Pogo’s Comedy Club Scene: laughter that stems from humor, that being Fleck’s clumsiness, and pathological laughter caused by PBA that results in no laughter from the audience.

Strange Laughter

Perhaps one of the most compelling features of *Joker* is the use of laughter not to make the viewer laugh but to heighten dramatic conflict. Many subjects of insanity in the media, such as previous iterations of the Joker, also have unending streams of laughter. While watching films, our brain can discern the difference between pathological and humor-based laughter, either by tone, context, or prior understanding of the subject that is laughing. One such example of this is the sourceless laughter that is found throughout Samuel Beckett’s (a Nobel Prize-winning Irish novelist renowned for his bleak, dark humor filled literature) writings, with laughter so unpredictable that the reader cannot help but sit in confusion or laugh in bewilderment. Dr. Hannah Simpson of the University of Oxford delves deep into

why exactly Beckett’s character’s random bouts of laughter are so unsettling. According to Simpson, theorists perceive that as a society, we limit how much laughter controls us, before the laughter becomes overbearing and unnatural. “Human beings, according to these theorists, lose control and laugh predictably and appropriately, only at certain stimuli and under certain circumstances. The theorized predictable nature of laughter, then, assumes that laughter that is recognizably ‘human’ is also necessarily ‘convivial’ ... to lose physical control with no apparent reason may strike us as so unfamiliar as to be non-human” (Simpson 4). Simpson gives perfect reasoning as to why we can differentiate between natural and unnatural laughter; pathological laughter arises within situations where we don’t expect it, and it’s the unexpected that makes something truly unsettling. Revisiting the Pogo’s Comedy Club scene, we find that the out-of-place laughter caused by Fleck’s PBA creates such an unnerving image. One simply has to watch a few stand-up comedy routines to see the difference between Fleck’s and others’ performances, as the unexpected uncontrollable bout of laughter in Fleck’s routine is in stark contrast to the well-placed chuckles of numerous high-performing comedians’ routines (Top 10 Dry Bar Comedy Clips Of 2022).

Inappropriate Laughter in Cinema

PBA, by no measure at all, is a rare disorder. As noted previously, “prevalence rates [of PBA] ranged from 9.4%–37.5%”, which means there are anywhere from 773 million to 3 billion people affected by PBA (the range of the prevalence rate is so large due to possible misdiagnoses). Despite its commonness, we rarely see it mentioned in our daily lives, but that does not mean that our case is completely extreme. This notion of laughter being used for something *other* than good is still incredibly prevalent throughout popular culture.



(Universal Pictures)

We see a prime example of this usage in a specific scene in the recent horror hit “M3gan”, a movie about an AI

companion that goes rogue and begins killing any that get near. As noted in Jason Zinoman's (a New York Times critic and author) article "In 'M3gan,' a Detective's Guilty Laugh Speaks Volumes About Him (and Us)", "a rugged detective ... after informing [the protagonist] that a boy who recently died had his ear ripped off, this familiar type does something unexpected: He cracks up. "Sorry, I shouldn't laugh," he says, course-correcting" (Zinoman). One of the producers surprisingly said that the scene received stronger, more-positive feedback when compared to the other scenes in the movie. In this case, the humor isn't used for good: to laugh at the death of the child is wrong on numerous levels, yet many audience members laughed alongside the detective. According to Zinoman, "one explanation for its success is that inappropriate laughter is inherently fun", and that something so bizarre and out of place can turn "a blandly functional scene" (Zinoman) into something that captures the audience and draws them back into the story. In Shakespeare's "Titus Andronicus", the titular lead laughs maniacally after decapitating the heads of his sons and his own hand, while his brother asks "Why dost thou laugh? It fits not with this hour." Dark humor, a style of comedy that brings attention to a subject generally considered taboo for a joke, is a perfect example of bringing joy to a particularly touchy topic. Dark humor is seen throughout our daily lives, especially at a place like TJ, where students like to bring humor to a less-than-joyful experience like their upcoming Physics Finals or the inability to order food to come to school during school hours. Dark humor allows us to decrease the tension or sadness caused when facing certain subjects, such as Jimmy Carr's self described "most offensive joke." It goes something like this: "If only Africa had more mosquito nets. Then every year we could save *millions* of mosquitos from dying needlessly of AIDS" (Jimmy Carr Tells His Favorite Joke He's Ever Written). Obviously this joke would not be taken lightly by all. And it would certainly result in foul looks if one were in a school environment, work environment, or even at the dinner table. Yet why did such a joke garner so many laughs? A joke like that wouldn't necessarily make everyone laugh, either. Someone affected by AIDS, or someone affected by any number of mosquito-borne diseases that exist would find the joke offensive. Thus, someone laughing at that joke would be blatantly offensive, turning that laughter into negative laughter. Not necessarily. By bringing humor to a sensitive topic, it's easier to face said topic head on, thus both bringing joy to (most) of the audience and shedding light on an important topic. Laughter isn't only for humor: it's for pain, suffering, insanity, desperation, tension. Zinoman says it perfectly: "Humor isn't just a coping mechanism. It's so intricately woven into daily life that you can't easily divorce it from tragic situations."

Conclusion

We asked 30 people to fill out a Google form that quizzed them on their familiarity with mental illnesses. Everyone knew about depression, anxiety, bipolar disorder, and schizophrenia, but only one person knew what PBA was. Researchers like Panksepp and the digital media have pushed forth a rigid definition of laughter, bridging it to positivity, and basking it in a good light that very few -knowledgeable of PBA- can see past. We hope that movies like *Joker* will continue to raise awareness for PBA, through riveting scenes and portrayal of symptoms like the Pogo Comedy Club scene. However, it's important to keep in mind that such exposure may not be fully beneficial due to theatrical dramatization but that's where those in the field of clinical psychology will need to step in to help filter realistic representation from dramatization. We thus find that separating pathological laughter, or laughter caused by mental illnesses such as PBA, and humor-based laughter is essential and brings about a new layer of complexity to our thesis as the term "laughter" may need to be broken down further to reduce ambiguity. As the media continues to push the idea that "laughter is the best medicine," which fills our newspaper headlines, movies such as *Joker* while overdoing the extremity of PBA-caused laughter, is beneficial, if not necessary, to shine the spotlight on how pathological laughter does not "ameliorate pain, alleviate stress, and promote functioning of the immune system" (Panksepp, 185). PBA may be a relatively unknown example, despite being incredibly widespread, but the purpose of this paper is far beyond solely spreading awareness of PBA. If anything, PBA should serve as an example of the possible consequences of generalization, especially in mental health. A key point we hope our readers take away isn't the effects of PBA or the portrayal of laughter in media but how detrimental it can be to advancing past our generalizations when we judge

others for their symptoms simply because it clashes with our societal views. Dr. Srivastava puts into words perfectly what we hope to see moving down the line. “Following in the footsteps of Joker and many before it, it is my hope that the vast generalization and stigmatization in the field of mental health is overwritten one by one, starting with PBA.”

Works Cited

- Ahmed, Aiesha, and Zachary Simmons. “Pseudobulbar Affect: Prevalence and Management.” *Therapeutics and Clinical Risk Management*, vol. 9, 2013, pp. 483-89.
- Cleveland Clinic. “Pseudobulbar Affect (PBA).” Cleveland Clinic, 11 Oct. 2022. [Pseudobulbar Affect \(PBA\): Causes, Symptoms & Treatment](#).
- Driscoll, Annabel, and Mina Husain. “Why Joker's Depiction of Mental Illness is Dangerously Misinformed.” *The Guardian*, 21 Oct. 2019. [Why Joker's depiction of mental illness is dangerously misinformed](#)
- Lindqvist, Daniel, and Victor I. Reus. “Psychopharmacology of Neurologic Disease.” *Handbook of Clinical Neurology Series Volume 165*. Elsevier Science, 2019.
- Lyle, Lesley. “Laugh Your Way to Happiness: The Science of Laughter for Total Well-Being.” *Watkins Media*, 2014.
- Martin, Rod A. “Is Laughter the Best Medicine? Humor, Laughter, and Physical Health.” *Current Directions in Psychological Science*, vol. 11, no. 6, 2002, pp. 216–20. Martinie, Alexander. “The Stigmatizing History of Mental Health in Film.” *The Current*, 28 April 2022, [The stigmatizing history of mental health in film](#)
- Mayo Clinic Staff. “Pseudobulbar Affect.” Mayo Clinic, Mayo Foundation for Medical Education and Research, 16 May 2018, [Pseudobulbar affect - Symptoms and causes - Mayo Clinic](#).
- Merchán-del-Hierro, Xavier, et al. “Why is the Joker Laughing? Clinical Features for the Differential Diagnosis of Pathological Laughter.” *Academic Psychiatry*, vol. 45, no. 4, Aug. 2021, pp. 512-16.
- Miller, Ariel, et al. “Pseudobulbar Affect: The Spectrum of Clinical Presentations, Etiologies and Treatments.” *Expert Review of Neurotherapeutics*, vol. 11, no. 7, 2011, pp. 1077-88.
- Mora-Ripoll, Ramon. “The Therapeutic Value of Laughter in Medicine.” *Alternative Therapies In Health and Medicine*, vol. 16, no. 6, Nov/Dec 2010, pp. 56-64.
- NAMI. “Mental Health By the Number.” *National Alliance on Mental Illness*, Jun. 2022, <https://www.nami.org/mhstats>.
- Panksepp, Jaak. “The Riddle of Laughter: Neural and Psychoevolutionary Underpinnings of Joy.” *Current Directions in Psychological Science*, vol. 9, no. 6, 2000, pp. 183-86. Pattiolo,
- Charlene, and Joanne Itano. “Laughter Is the Best Medicine.” *The American Journal of Nursing*, vol. 101, no. 4, 2001, pp. 40–43.
- Phillips, Todd, and Scott Silver. “Joker an Origin Final Shooting Script.” 1 December 2018, [JOKER an origin written by Todd Phillips & Scott Silver 1 DECEMBER 2018 FINAL SHOOTING SCRIPT](#).
- Provine, Robert R. “Laughter.” *American Scientist*, vol. 84, no. 1, 1996, pp. 38–45.
- Rogers, Diane. “Telephone Interview.” Sai Mattapalli, 9 Jan. 2023.
- Srivastava, Kalpana. “Telephone Interview.” Sai Mattapalli, 22 Jan. 2023.
- “Top 10 Dry Bar Comedy Clips Of 2022.” *YouTube*, uploaded by Dry Bar Comedy, 30 Dec. 2022, [Top 10 Dry Bar Comedy Clips Of 2022](#).
- “Jimmy Carr Tells His Favorite Joke He's Ever Written.” *YouTube*, uploaded by Fun Void, 14 Apr. 2014, [Jimmy Carr Tells His Favorite Joke He's Ever Written](#).
- Universal Pictures. *M3gan*. 2022.
- Warner Bros. *Joker*. 2019.
- Zinoman, Jason. “In ‘M3gan,’ a Detective’s Guilty Laugh Speaks Volumes About Him (and Us).” *New York Times*, 20 Jan. 2023.