

People seeking wellness: The physical, mental, spiritual and family health of people in Aotearoa-New Zealand who desisted from methamphetamine use

Trent Bax*
*Associate Professor
Sociology Department,
Ewha Womans University*

Abstract

This paper utilizes Mason Durie's Te Whare Tapa Whā Māori-based framework of well-being to analyse 35 former methamphetamine users physical, mental, spiritual and family health. Despite extensive poly-drug use and adversity across multiple life domains, the in-depth interviews reveal two-thirds experienced either minor or no problematic physical health issues, while for almost half extensive poly-drug use exerted only minimal negative impact on their physical health. By contrast, three-quarters consistently or periodically suffered serious mental and/or emotional distress. Such distress—especially depression, emotional pain, stress or anxiety—contributed to drug use for all but three interviewees. This qualitative life-course analysis of 'people seeking wellness' (Tāngata whaiora) shows mental distress and frequent methamphetamine use can be a recoverable physical and mental health disruption. Post-methamphetamine use, interviewees' mental health and life satisfaction were, on average, the highest they have been.

Keywords: Methamphetamine Use; Aotearoa-New Zealand; Mental Health; Physical Health; Spiritual Health; Desistance.

* Direct correspondence to the author: trentbax@hotmail.com, <http://dx.doi.org/10.36889/IJCJ.2024.001>
Received 30 January 2024; Accepted 20 February 2024
INTERNATIONAL JOURNAL OF CRIMINAL JUSTICE, Vol. 6 Issue 1, June 2024, 11-45
© 2024 Korean Institute of Criminology and Justice (KICJ)

Introduction

In Aotearoa-New Zealand, the Misuse of Drugs Act (1975) classifies drugs according to the risk of harm they pose to the people using them. Methamphetamine is classified a ‘Class A’ controlled drug as it has been determined to pose a ‘very high’ level of risk of harm. An individual caught in possession of a Class A drug can face up to 6 months in prison and/or a \$1,000 fine. Manufacture or supply of a Class A drug can result in life imprisonment (Misuse of Drugs Act, 1975). Methamphetamine use in Aotearoa-New Zealand is closely connected to criminal activity, which can harm community cohesion. For example, survey results indicate between one-third and one-half of frequent drug users purchase methamphetamine from a gang member or gang associate (Wilkins et al., 2017). In 2007, police concluded three-quarters of all illegal manufacturing laboratories were connected to organised criminal groups (Policy Advisory Group, 2009), while in 2017 the Police Association claimed methamphetamine to be the biggest driver of crime in eleven of the twelve police districts (Clayton, 2017). Thus, there is widespread public concern about the manufacture, sale and use of methamphetamine.

According to the 2018 report of the Aotearoa-New Zealand government inquiry into mental health and addiction (Paterson, et al. 2018), one-in-five citizens experience mental health and addiction challenges at any given time. Additionally, over 70% attending addiction services have co-existing mental health distresses. The report’s *wellness manifesto* advocates a paradigm shift from “big psychiatry” to “big community” (ibid: 97). This requires shifting focus toward physical, mental, spiritual, social and cultural well-being for all and community-based solutions for those requiring assistance. Citizens also implored the inquiry to treat addiction as primarily a health issue, and not a criminal justice issue driven by harmful and ineffective ‘tough on drugs’ policies (which have led to gang control of drug supplies). This holistic approach views mental distress and addiction not as a biomedical-based mental health *deficit*, but as a recoverable physical, mental, social and/or spiritual health *disruption*. “Every day,” the authors wrote, “people recover from distress, overcome addictions and find strength in their lives” (ibid: 67).

The report promoted the term *people seeking wellness* (Tāngata whaiora), which is defined as “people who experience mental health or addiction challenges and who are seeking wellness or recovery of self” (ibid: 22). The report also advocated use of Mason Durie’s (1985) Māori-based holistic model of well-being. Durie’s Te Whare Tapa Whā framework uses the symbol of the Māori meeting house (wharenuī) to illustrate four dimensions of well-being: (1) *physical health* (taha tinana), (2) *mental health* (taha hinengaro), (3) *spiritual health* (taha wairua), and (4) *family health* (taha whānau). This quadripartite bio-psycho-spiritual-family framework approximates Engel’s (1977) tripartite bio-psycho-social model. Engel’s critique of the biomedical model for denying the psychological, behavioural and social dimensions of illness led to behavioural medicine, which recognises body-and-mind are interconnected and that conceptualising in terms of wholeness is vital to a full understanding of illness and health. This perspective also recognises the human body is self-healing because it has a “built-in ability to regulate itself as a whole to maintain internal balance and order” (Kabat-Zinn, 1990: 155). Hence why health means “whole” and healing means “making whole” or the restoration of integrity and balance (Weil, 1995: 5).

Following this holistic perspective, this paper analyses the physical, mental, spiritual and family health of a group of people in Aotearoa-New Zealand seeking wellness who formerly used methamphetamine. Doing so takes into account their overall life-course circumstances, challenges and/or traumas; as opposed to matching individuals to a diagnostic label. This research therefore adds to extant knowledge by offering a unique holistic qualitative life course-based analysis.¹ Only by better understanding the interconnected circumstances, contexts and consequences of methamphetamine use can we adequately allocate resources, plan health services, provide suitable interventions and improve treatment coverage. (Wallace et al., 2009).

1 Approved by ‘Ewha Womans University Institutional Review Board’, at Ewha Womans University. IRB#: 158-6.

What do we know about methamphetamine's effects?

Methamphetamine temporarily increases energy, self-confidence, euphoria and invincibility (Sommers et al. 2006; Sheridan et al. 2009; Ohler, 2016). Subsequent bingeing behaviour can impact physical health and mental functioning, especially sleep deprivation, weight loss, paranoia, anxiety, depression and hallucinations (Sommers et al. 2006; Butler et al. 2010). Specifically, the greater the quantity and frequency of methamphetamine use the greater the likelihood of “methamphetamine-associated psychosis” (Arunogiri et al. 2018: 526; McKetin et al. 2006; Ding et al. 2014). There is, however, “compelling evidence” methamphetamine use directly induces a “psychotic state” because symptoms can occur one hour after administration and abate relatively quickly following discontinuation (McKetin, 2018: 1524). This indicates “methamphetamine-induced psychosis” is a “transient state” for most users (McKetin, 2018: 1525; McKetin et al. 2013). Since methamphetamine initially provides a “feeling of mastery and power” (Sommers et al., 2006: 1473), use has been linked to increased aggression (Brecht et al., 2004; McKetin et al., 2014; Zweben et al., 2004). Although frequent use may be a risk factor for aggression (Homer et al., 2008), Sommers et al. (2006: 1476) found two-thirds of respondents did not commit methamphetamine-related violence. Likewise, a survey of frequent methamphetamine users in Aotearoa-New Zealand found 13% committed a violent crime in the past six months (Wilkins, et al., 2015). And whilst a study examining the ‘drug-crime nexus’ found regular users of methamphetamine tend to have a more extensive criminal history, they are not more prone to committing violent crimes (Gizzi and Gerkin, 2010).

Whether negative consequences are ‘induced by’ or ‘associated with’ methamphetamine use, research has nevertheless found a “significant number” of methamphetamine users experience “limited or no serious social, psychological, or physical dysfunction” (Sommers et al. 2006: 1476). Additionally, there is no “single, uniform career path” methamphetamine users follow, meaning “progression from controlled use to addiction” is not inevitable (ibid).

Users of methamphetamine have stated they initially used the stimulant

to assist with emotional stress or depression, with increased use subsequently contributing to increased depression, psychological turmoil or emotional pain (Boeri et al. 2009). It is unsurprising use is higher amongst those with mood disorders because drug addiction is commonly a “symptom of emotional disease” (Vaillant, 2012: 296). For example, Ministry of Health data (2014; 2016; 2019) shows approximately 1% of Aotearoa-New Zealand adults used methamphetamine in the previous 12-months, whereas 36% arrested for a criminal offense in 2015 used in the prior 12-months (Johnson, 2018). The elevated prevalence rate of substance use among prisoners correlates with their elevated rates of mental distress (Brinded et al., 2001).

According to Ministry of Health data, four-in-ten Aotearoa-New Zealanders meet the “criteria” for a mental disorder at some point in their life-course (Oakley Browne, 2006: 867), while 15-20% have “ever been” diagnosed with a mood and/or an anxiety disorder (Ministry of Health, 2008, 2012, 2014b; Lee et al. 2017). Yet at any given time, almost 80% of Aotearoa-New Zealand adults “have no or very low psychological distress” (Ministry of Health, 2008: 207). For those in psychological distress there is a high frequency of comorbidity, with six-in-ten disorders occurring in people with two or more disorders (Scott et al. 2006). For example, of those with a substance abuse disorder almost half also experience an anxiety disorder (ibid). Mental-and-physical comorbidity has also been observed. Those with a mental disorder are more likely to have a chronic physical condition than the general population, while those with a chronic physical condition are more likely to have a mental disorder (Beautrais et al. 2006). This indicates a bidirectional relationship between mental and physical distress (Cohen and Rodriguez, 1995; Seligman, 2011).

Extensive evidence demonstrates experiencing traumatic events such as childhood, sexual or domestic abuse can lead to adverse mental health effects (e.g. depression, anxiety, substance abuse) (Cusack et al. 2004; Brown et al. 2005). Exposure to adverse childhood experiences may increase the risk for methamphetamine onset, severity of dependence (Messina et al. 2008) and methamphetamine-associated psychosis (Ding et al. 2014). Research into adverse childhood experiences (ACEs) have established a robust link between

exposure to childhood adversity and higher rates of mental distress and addiction (Dube et al. 2003; Anda et al. 2006). Prior analysis by the author of interviewees' family environment (Bax, 2021a) discovered they had encountered almost five adverse childhood experiences on average, and that almost three-quarters had encountered four or more ACEs. Further analysis (Bax, 2021b; 2021c) discovered commonly shared adverse experiences hindered educational, employment, marital and parenting success and contributed to poly-drug use.

The aforementioned government inquiry considers addiction to be a *counterproductive coping mechanism* to ACEs. Thus the “best medium- to long-term investment” in well-being lies in preventing childhood exposure to adversity and building resilience (Paterson, et al. 2018: 50). Nevertheless, the ‘Harvard Study of Adult Development’ shows an adverse childhood is “neither destiny nor doom” (Vaillant, 2012: 52). The 75-year-old study found childhood trauma decreases in importance over time, while positive childhood experiences endure. Vaillant (2012: 52) concluded it is the child’s “total experience”—not any particular trauma—which exerts the clearest influence on adult psychopathology. Vaillant also argued mental illness is better understood as “reaction patterns to stress” and the outward expression of “inward struggles to adapt to life” (ibid: 369). Since most mental health issues “reflect ongoing adaptive processes” then recovery typically occurs as adaptive styles mature (ibid: 369). For example, about 90% of drug addictions begin in adolescence and most end by age thirty (Szalavitz, 2016). These maturing adaptive styles are “natural healing processes” that continue well into middle life (Vaillant, 2012, 370). For example, the majority of this study’s interviewees desisted from methamphetamine use without participation in professional treatment or rehabilitation.

Methods

By integrating personal, social and environmental factors, the life-course method analyses changes in relationships and behavior as people twist along the pathway of life and how, in turn, such changes affect behaviours such as

drug use patterns (Hser et al. 2007). The life-course approach recognises both the mutual influence of person and social context over time and the bi-directional nature of relationships (Giele and Elder, 1998). The life-course method thus offers an expanded framework that allows researchers to account for the trajectories, transitions and turning points that characterize the life-course of methamphetamine users (Hser et al. 2007; Teruya and Hser, 2010). A life-course approach seeks to obtain data on: *human agency* (health, well-being, meaning and satisfaction); *linked lives* (relationships); *timing* (event histories); and *location* (social, cultural and historical context) (Giele and Elder, 1998).

Despite memory recall issues, a retrospective person-based life-history narrative approach is valuable for understanding the processes of frequent drug use over multiple phases and domains of the life-course (Laub and Sampson, 2003; Boeri and Whalen, 2009). Life histories also reveal in the drug user's own words the personal-situational context of their behaviour, thereby revealing the interconnections between life events and situations (Laub and Sampson, 2003). Table 1 shows the data acquired for this research:

Table 1. Data Source.

N	Primary Data (obtained via snowballing method)
35	In-depth semi-structured <i>interviews</i> with former methamphetamine users (100 hours of recorded data)
6	In-depth <i>interviews</i> with mother, partner, ex-partner of former methamphetamine users (10 hours of recorded data)
Supplementary Data (obtained via online methamphetamine support group)	
7	Transcribed <i>testimonies</i> of former methamphetamine users (7 hours of video data)
18	Transcribed <i>live online chats</i> with former methamphetamine users (20 hours of video data)
66	Approximately 1,000,000 words of transcribed empirical data

In this paper, only data from the 41 interviews is used; a number comparable to qualitative studies of methamphetamine users by Joe (1996), Halkitis et al. (2005), Lende et al. (2007), Boeri, et al. (2009) and Carbone-

Lopez et al (2012), and twice as many as a comparative study on methamphetamine users in Aotearoa-New Zealand (Sheridan et al. 2009). The 35 semi-structured interviews were divided into: 1. *Life in Review*, and 2. *Methamphetamine Use*. In Part 1, interviewees reviewed their life from beginning to present, including the domains of family, school, friendship, work, romantic relationships, marriage, parenting, mental and physical health and spirituality. Interviews focused on the significant relationships, experiences and events in each life domain to understand the trajectories, role transitions and turning points in their life. Participants also revealed their drug use history, and at the end of each life domain were asked whether that domain has influenced their drug use and, reciprocally, whether drug use impacted on that life domain. Part 2 focused specifically on their methamphetamine use, including onset, progression, control, impact, desistance and life post-methamphetamine use. Interviewees also completed a 'Life Satisfaction Chart' (Clausen, 1993). On average, each interview lasted approximately three hours. Contact with interviewees was initially made with five former methamphetamine users known to the author. A snowballing method was employed to locate 22 other interviewees, while 14 were found through advertisements posted on two online methamphetamine support groups.

Interviewees were born between 1962 and 1995 (with half born in the 1970s), and 43-years-old on average. 54% are male, 46% female, 74% European/Pākehā and 26% Māori (the general population is 49%, 51%, 70% and 16.5% respectively). Interviewees have lived throughout all of Aotearoa-New Zealand's provinces in various villages, towns and cities. To qualify as a former frequent methamphetamine user, participants had to have used methamphetamine for at least six consecutive months, but had not used for at least 12-months. On average, interviewees were methamphetamine users for seven-and-a-half-years and ceased being a methamphetamine user seven-years prior to the interview at age 36. All interviewees were poly-drug users with extensive experience using various legal and illegal substances, especially alcohol, cannabis, nicotine, amphetamine, cocaine, LSD, psilocybin and ecstasy.

Results

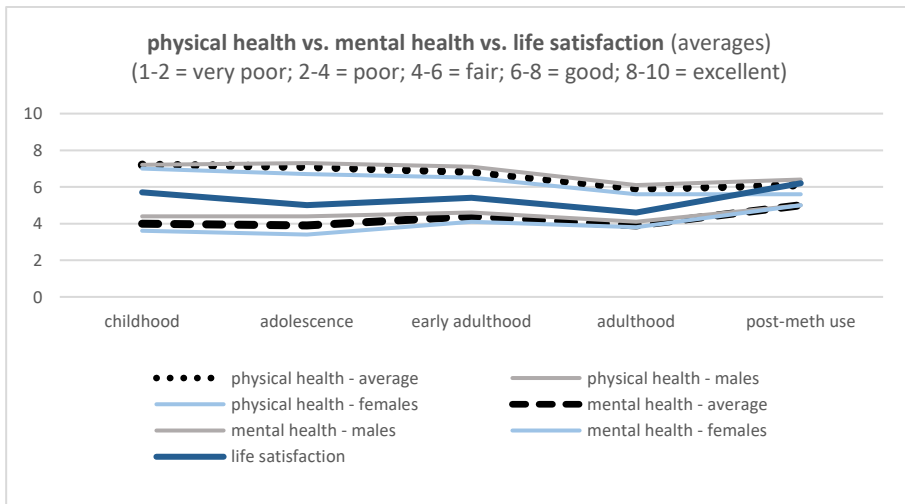
Physical Health

Less than a quarter of interviewees have encountered serious physical health issues throughout their life-course. Only three have encountered long-term physical health issues (a spine defect, a brain injury, sinusitis), while five encountered short or medium-term issues (e.g. poisoning, cancer, fibromyalgia). Of the three who encountered a serious physical health issue post-methamphetamine use, methamphetamine had a direct contribution in only one case (it contributed to worsening life-long sinusitis). Half the interviewees have encountered either moderate or minor physical health issues (e.g. asthma, bronchitis, pneumonia), with most occurring during childhood or adolescence. Of the four who developed a physical health issue post-methamphetamine use, none can be clearly and directly attributed to prior methamphetamine use. Despite extensive poly-drug use, a quarter have led mostly physically healthy lives. Interviewee-11 (female, 48) has “*always been really healthy*” despite being a “*really heavy*” binge drinker for seven years, a “*very heavy*” cannabis user for 30-years, and “*constantly*” smoking-then-injecting methamphetamine for 7 years. Interviewee-13 (male, 47) has “*never had a health ailment*” despite 25 years of daily cannabis use and 8 years of methamphetamine use. And Interviewee-25 (male, 41) has “*always been fit and healthy*” despite 22-years of regular ecstasy, cocaine and methamphetamine use.

Altogether, two-thirds have encountered either minor or no physical health issues, which is comparable to 2009-2014 Aotearoa-New Zealand-based survey data which shows 65% of frequent methamphetamine user’s physical health was self-rated excellent, very good or good (Wilkins et al. 2015). Female interviewees were more likely to have suffered serious or moderate physical health issues. As Table 2. shows, there was a very gradual decrease in physical health from childhood until adulthood, then a further decrease in adulthood due mostly to the effects of drug use. Since desisting from methamphetamine, however, interviewees’ physical health has slightly improved—despite their prior drug-induced lifestyle and the natural aging

effect on physical health.²

Table 2. Physical and mental health and life satisfaction over the life-course.



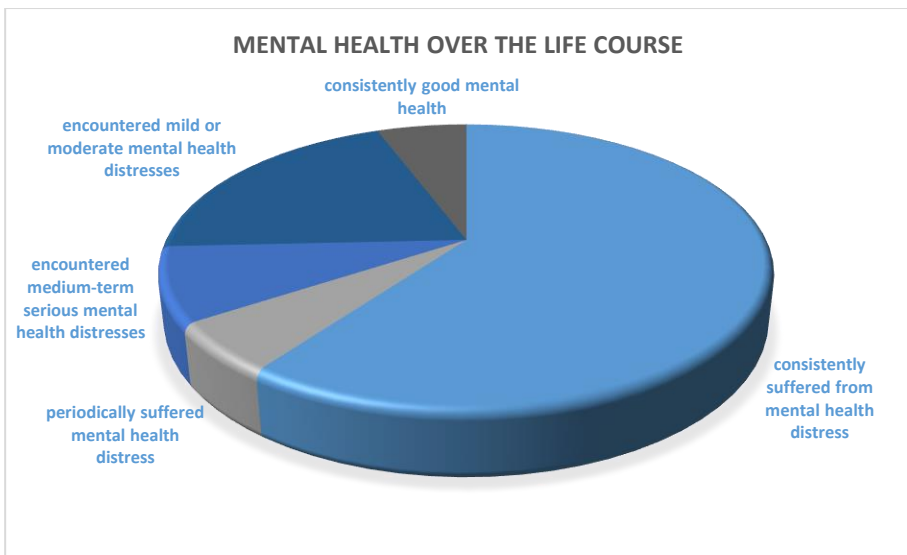
Mental health

Overall, female interviewees’ mental health remained lower than their male counterparts until the post-methamphetamine period (see Table 2). One-third of interviewees have previously been diagnosed with a mental illness. For ten of the twelve the main distress was depression. The same number were prescribed medication for a mental illness; again, ten of the twelve prescriptions were antidepressants. Ten interviewees also sought professional assistance to help manage anxiety, sexual abuse, parental neglect, low self-esteem, approval seeking behaviour, an eating disorder, suicidal ideation/ attempts and severe LSD-induced psychosis. An additional seven clearly suffered serious mental health distress, yet were never diagnosed with a

² The author divided the life course into five periods; childhood, adolescence, early adulthood, adulthood and post- methamphetamine use. For each period, physical and mental health was subjectively rated on a scale of 1 to 10 (see Table 2. for scale). Life satisfaction is the average from the Life Satisfaction Charts interviewees 1-35 completed.

mental illness. For example, Interviewee-1 (male, 56) has had life-long depression-like symptoms, regular suicide ideation, and always needed drugs to “*feel good.*” Likewise, Interviewee-16 (male, 46) has suffered “*severe anxiety*” his “*whole life,*” felt “*a little bit depressed most of the time*” and has “*never really felt good about*” himself.

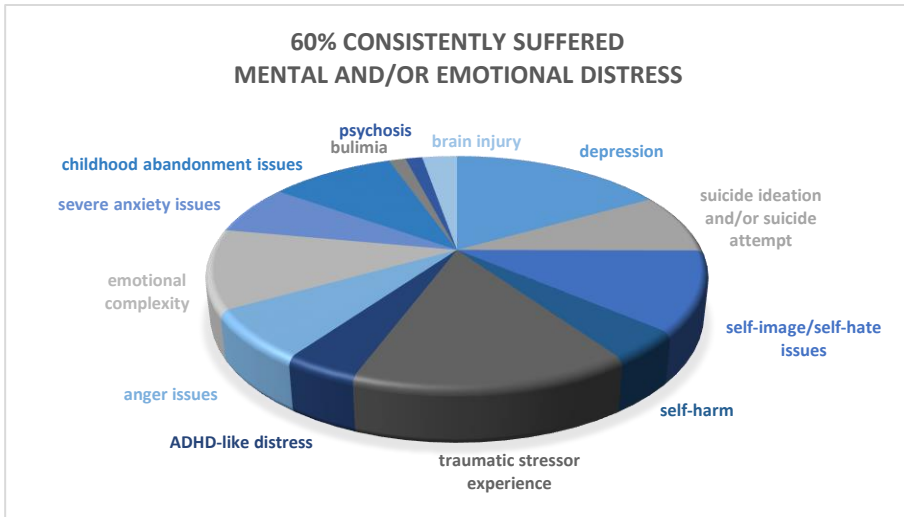
Table 3. Mental health over the life course.



As Table 3. shows, almost two-thirds have consistently suffered mental and/or emotional distress. As Table 4. shows, of the thirteen various mental health distresses identified the most common were: (a) depression, (b) traumatic stressor experiences, (c) self-image/self-hate issues, (d) emotional complexity, and (e) childhood abandonment issues. For example, Interviewee-10 (female, 48) is a self-described “*empath*” who was “*badly bullied*” at primary school and felt like an “*outsider*” at home and “*a deep sense of not belonging.*” During adolescence she was “*more emotionally complex*” than her peers, resulting in adolescence “*being really painful emotionally.*” Between 15 and 20 she had “*low self-esteem*” from “*massive body image issues,*” resulting in “*full-blown bulimia*” at 21. Then at 24 her life “*went*

downhill” after her father passed away. She then discovered heroin, “*which was the only thing that ever numbed the pain.*”

Table 4. Mental and emotional distresses.

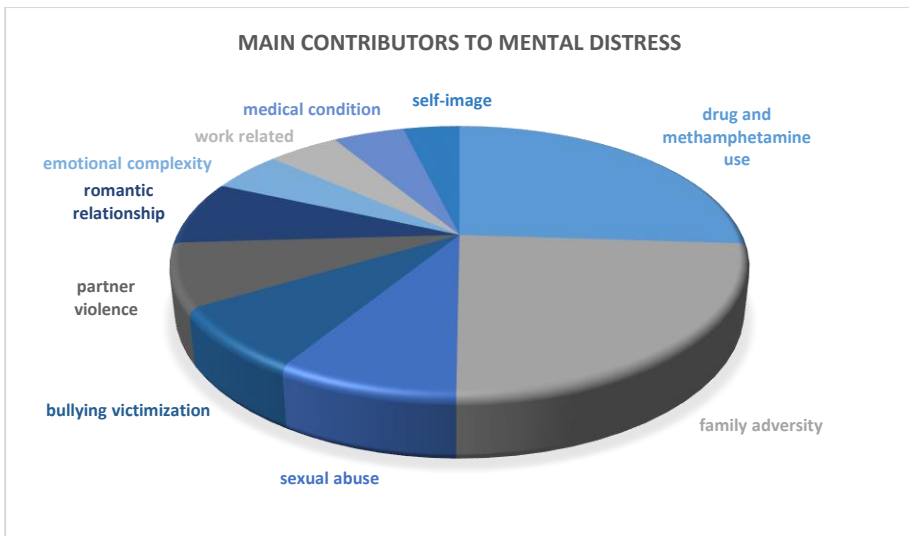


An additional five interviewees either periodically suffered from a mental health distress or encountered medium-term serious mental health issues. For example, Interviewee-27 (male, 39) believes “*most of*” his mental health issues stem from his parent’s divorce at age 7. Then bullying victimization between 8 and 12 adversely affected his self-esteem and self-image. Then at 21 his “*mental health went out the door*” after his dream of becoming a professional athlete ended abruptly – “*and that was when the problems [with methamphetamine] started.*”

At the low end of the continuum, seven interviewees encountered mild or moderate mental health distresses (e.g. short-term depression, separation anxiety, low self-esteem). Thus only Interviewees 13 (male, 47) and 22 (male, 43) said they consistently experienced relatively good mental health over their life course—despite 25 and 28 years of cannabis use and 8 and 20 years of methamphetamine use respectively. Interviewee-22 believes his mental health

“has been good all the way through.” He doesn’t “get down or depressed” and “never had bad thoughts towards” himself. Importantly, these two men are part of six who encountered none or one adverse childhood experience (and five of the six encountered no or only minor mental health issues). By contrast, the twenty-one who consistently suffered mental health issues encountered 5.7 ACEs on average.

Table 5. Main contributors to mental distress.



As Table 5. shows, analysis discovered ten main contributors to interviewees’ mental distress. On average, each experienced three of these contributing factors. For approximately three-quarters, the adverse effects of drug and methamphetamine use and family adversity contributed to their mental and emotional distress. For one-quarter, sexual abuse, bullying victimization, partner violence and/or adversity within a romantic relationship contributed to their mental and emotional distress.

Did physical and mental health influence drug use?

Physical health distresses contributed to drug use for less than one-quarter. Methamphetamine, alcohol, cannabis and/or heroin was used to manage overwork, stress, tiredness, lack of motivation, a physical injury, back pain or insomnia. Interviewee-18 (male, 45), for example, used cannabis to “*numb the pain*” from physical manual labour and used methamphetamine—which he and his co-workers called “*medicine*”—to manage tiredness and overwork.

By sharp contrast, mental health distresses contributed to drug use for all but three interviewees. The most common mental health concerns were: depression, emotional pain, stress or anxiety, and being in an abusive relationship. Additionally, low self-esteem, parental neglect and grief also contributed to drug use. Over half believed they were “*self-medicating*” a mental health issue. They were using drugs to either “*get rid of emotions*,” “*escape from reality*,” “*suppress everything*,” “*hide the hurt*” or “*block out trauma and pain*.” Drugs were also used to “*shut everyone off*” or “*as a way of dealing with grief*” and “*distortions of thinking*.” They desired to use drugs when feeling “*low*,” “*miserable*,” “*depressed*,” “*hurt*,” “*lost*,” “*mental pain*” or “*lack of self-worth*.” Drugs were also used when they weren’t “*in a good psychological state*” or “*didn’t feel good about*” themselves. The drugs’ effects would consequently make them feel “*really good about*” themselves, “*so good*,” “*fantastic*,” “*a happier person*,” “*sedated*,” or “*relaxed*.” Simply, drug use provided partial relief from emotional pain or temporary pleasure as they strived to adapt to adversity (Maté, 2008).

The term ‘self-medication’ is, however, misleading because not every reason for self-administering their drug(s) of choice can be considered a medical condition or disease (Alexander, 2008). A more accurate term may be ‘*self-mediation*.’ They were mediating on behalf of the body’s naturally resilient, self-regulating and self-healing system, which due to adversity, stress, demand, pressure, uncertainty and/or toxicity had become ‘imbalanced’ or at worst ‘dysregulated’ (i.e. they had difficulty managing and maintaining typical emotional responses) (Kabat-Zinn, 1990). Even though evolutionary necessity has imbued the body with innate mechanisms of self-healing to

counteract the forces that create injury and illness, the capacity of the self-healing system to restore balance can occasionally be exceeded by the forces of imbalance (Weil, 1995). From this perspective, self-mediation is a means of adapting to adversity. However, this adaptive method will not lead to healing or ‘becoming whole’ (Kabat-Zinn, 1990). Firstly, toxic overload diminishes innate healing responses. Secondly, self-mediation—as a type of ‘self-treatment’—may partially facilitate healing or remove obstacles to it, but treatment and healing are different. As Weil (1995: 138) stated, “treatment originates outside you; healing comes from within.”

Did drug use influence physical and mental health?

Surprisingly, analysis shows that for almost half their methamphetamine and drug use exerted minimal long-term impact on physical health. Current physical health was typically considered “good,” “pretty good” or “really good,” and they feel “fit, healthy” or “lucky.” A few noted their “lung capacity” is “fine” or “really good.” Interviewee-25 (male, 41) has “never been sick” and “never been to the doctors.” Interviewee-23 (male, 43) has undergone “a lot” of medical tests post-methamphetamine use, and all test results “have come back top-notch.” Interviewees 15 (male, 46) and 5 (female, 50) believe they are “one of the lucky ones” for having “no serious side-effects” from long-term methamphetamine use, but emerging relatively unscathed physically is more the norm than the exception for these former users. Regarding the way drug use impacted physical health *whilst* using methamphetamine, methamphetamine-and-drug use mainly impacted on productivity, physiological functioning, sleep, diet, sexual behaviour and skin quality.

Productivity

For over half, methamphetamine initially increased motivation, productivity and efficiency, but continued use eventually decreased motivation, productivity and/or efficiency. In general, methamphetamine was a “tool,” a “medicine,” a “motivator drug” or a “performance enhancer” that initially put them “in such a good mood” and made them feel like a “bullet-

proof machine.” Consequently, they were able to “*go longer, go harder and get more done.*” In Aotearoa-New Zealand this process is commonly referred to as being “*out the gate.*” Whilst in this over-stimulated “*buzz*” mode they are thinking about “*the things that you can achieve and the projects that you might do.*” But while they are “*making plans*” in their minds, in reality “*none of them are coming to fruition*” because when they “*comedown*” either “*the motivation has gone*” or they have “*moved on to something else.*”

Physiological functioning

For over half, drug use impacted upon physiological functioning. This included: (a) developing a “*smoker’s cough,*” (b) reduced “*liver function,*” lung capacity or memory recall, (c) increased blood pressure or cholesterol level, (d) aggravation of asthma or sinusitis, and (e) “*damage*” to teeth. For some, physical fitness decreased because they “*stopped exercising.*” A few expressed concern methamphetamine may have “*fried my brain.*” When first in recovery, Interviewee-11 (female, 48) had a “*problem tripping over words,*” but this issue resolved itself relatively quickly. Post-methamphetamine use, Interviewee-20 (male, 44) had to naturally “*heal*” from the “*neurological*” impact drugs had on the “*receivers and receptors*” in his brain (whilst regular exercise “*healed*” his lungs). Interviewee-24 (female, 42) was told methamphetamine “*burns holes in your brain,*” but “*doesn’t feel slower*” neurologically. Likewise, Interviewee-17 (male, 46) was told methamphetamine burns out “*brain receptors,*” but believes his “*brain is still wiring*” normally.

Sleep deprivation

In 1929, chemist Gordon Alles was the first person to prepare then self-administer amphetamine, which resulted in a “*sleepless night*” (Rasmussen, 2008: 6). Like Alles, the direct physiological effects of methamphetamine caused all interviewees to experience sleep deprivation. Typically, after two nights without sleep they could “*feel it*” because their “*mental state was not right.*” Then after being awake for three nights they felt “*wired,*” “*on edge,*” “*frayed*” or “*fried.*” And by the fourth day they would be “*fucking tripping.*” However, the length of time without “*proper*” sleep varied greatly. A few

never missed more than two nights before they “*needed*” sleep, while others stayed awake for four days before their mind “*unravelling*” and their body started “*closing down*.” At the extreme of the continuum, Interviewee-22 (male, 43) would “*regularly stay up for two weeks*.” When he finally “*crashed*” he could “*crash for 3 days*” and “*then get back on it*.” Likewise, Interviewee-31 (female, 34) “*would go 3 weeks without sleeping*,” and then “*sleep for 4 days*.” After three or four days without sleep they typically started hallucinating, which began by “*catching a glimpse of something*” out of the corner of their eye and ended in seeing “*shadow people*.” For at least five interviewees, entering this “*enlightened state*” was a key attraction to being “*out the gate*.” When their body was “*wiped out and depleted*” they would receive a final “*squirt of inspiration*” or experience “*lightbulb moments*.” As Interviewee-20 (male, 44) put it: “*At the darkest hour you will have the brightest moments*.”

Diet and weight

For at least two-thirds, methamphetamine use impacted upon diet and weight. Because methamphetamine suppresses appetite (Rasmussen, 2008), many “*lost more and more weight*.” As a result, they looked “*rundown*” or “*unwell*,” or at worst “*gaunt*” or “*very skinny*.” Many would “*force*” themselves to eat because they “*knew*” they “*should be putting stuff*” in their body. But this often consisted of “*shitty food*” such as “*junk food*,” “*milkshakes*,” “*chocolate*” and “*cupcakes*.” Even though Interviewee-32 (male, 31) believes methamphetamine “*eats away at you from the inside out*,” weight loss was not inevitable. For example, Interviewee-20 (male, 44) said methamphetamine made him “*fat and lazy*.” When on a “*binge*” he was “*sitting around for hours doing nothing but talking shit*,” and when coming-down was a “*poor eater*” who “*didn’t want to exercise*.” Likewise, Interviewees 22 (male, 42) and 23 (male, 43) “*never lost any weight*.” And interviewee-15 (male, 46) worked hard to conceal his use, so was “*always eating even though I didn’t want to*.” In “*trying to hide*” his use he became “*a chameleon hiding in reality*.”

Sexual behaviour

Despite interviewees' not being specifically asked about sexual conduct, almost half revealed the way methamphetamine influenced sexual behaviour. For at least a quarter, "*the sexual component*" was an important part of their attraction to methamphetamine. Whilst "*buzzing*" they enjoyed "*great*" or "*fantastic*" sex, sometimes "*all night long*." However, Interviewee-11 (female, 48) believes methamphetamine brought out the "*worst sexual depravities*" within her (such as attending "*swinging sex parties*" with her husband). And for Interviewee-6 (male, 50) the "*psychological binding*" established between methamphetamine and sex means he finds it difficult "*to be sexually aroused without meth*." Nevertheless, at least four interviewees had little interest in sex because all they wanted to do was "*get fried*" and "*smoke as much*" as possible.

Skin complications

Whilst not all interviewees were asked about methamphetamine's effects on skin, only five mentioned an adverse reaction (such as "*sores*" or "*scabs*" from picking). Yet even more said they neither scratched their skin nor developed sores. Unlike the 'faces of meth' campaign (<https://facesofmeth.us>), it cannot be determined physiologically let alone at face value who is or is not a frequent methamphetamine user. In fact, at least half successfully concealed their methamphetamine use for an extended period of time from their family, children, friends and/or co-workers. For Interviewee-8 (female, 49), successful concealment from co-workers required becoming "*a really good actress*." Seven interviewees managed to conceal their methamphetamine use from their intimate partner, most for many years. For example, Interviewee-15's partner said she "*had no idea*" she had been living with a frequent methamphetamine user for over three years.

Impact on mental health

Regarding the way drug use impacted on mental health, drug use (but especially methamphetamine) firstly exerted a positive effect then increased depression, paranoia, anxiety and isolation.

Temporary positive effect

For at least three-quarters, methamphetamine exerted a temporary positive effect on mental health. In the beginning, methamphetamine use was “*amazing*” and “*exhilarating*” because the “*mental clarity*” it provided was “*unbelievable*.” The effect was “*like an awakening*” that made them feel “*alive*,” “*bullet-proof*” and “*really good*” about themselves. As a result, they felt more “*open*,” “*free*” and “*friendly*.” Methamphetamine was called a “*truth serum*” because it made them “*very talkative*” and “*honest*.” Some believe methamphetamine “*really opened*” them up “*spiritually*” because it “*pushed*” them “*deep into soul searching*” by prompting them to “*analyse*” their (adverse) life history. Interviewee-4 (female, 51) would sit for “*hours thinking and regressing*” and “*going through each part of my life and finding out more and more about myself*.” But she realised “*it doesn’t take long*” for methamphetamine to “*turn on you*” and “*drag you down*.” She believes methamphetamine firstly makes you feel like “*you are just the best thing ever*” but “*then it is telling you, ‘Now look at you, you fucking loser’*.” For Interviewee-7 (female, 49), methamphetamine initially “*took all my problems away*,” but slowly “*created its own set of problems*” (e.g. imprisonment). Likewise, Interviewee-2’s wife said methamphetamine was “*definitely not*” the solution to his psychological distress because he ended up in a “*massive black hole*” of “*depression*” after losing his business whilst trying to quit.

Depression

Half experienced depression-like states during or after drug use. For most, drugs were initially used to help “*combat depression*,” but continued use eventually “*accentuated*” their depression. Specifically, the methamphetamine binge-then-comedown caused “*mood swings*” that were “*like a two-ton pendulum, where the highs are just fantastic but coming down was almost unconscious on the couch*.” At worst, they felt like their “*soul had gone*,” which made them feel “*depressed*,” “*miserable*,” “*a sense of impending doom*” and experience “*self-loathing*” and “*suicidal thoughts*.”

Isolating behaviour

Closely coupled to methamphetamine-induced depression is the tendency to become “*more distant*” and “*isolated*” from people. They became “*more withdrawn from family and everything*” as continued use made them “*lose trust in people*” and become more “*socially anxious,*” “*suspicious*” and “*introverted.*” “*Not wanting to engage*” with non-methamphetamine users meant they would “*push people away.*” Consequently, they ended up “*locking*” themselves away in their “*own little bubble*” with a small group of fellow users. Nevertheless, Interviewee-28 (male, 38) “*would always be out and about doing stuff.*”

Paranoia

Such “*hermit*”-like behaviour is closely connected to the paranoid thinking that is common to methamphetamine use (Connell, 1968; Sommers et al. 2006; McKetin, 2018). Almost three-quarters experienced paranoia, which included thinking family members “*were all against*” them or “*they were being watched*” by police. In this “*heightened state of consciousness,*” they could hear the “*slightest noise outside*” or were “*thinking that people were trying to get in.*” Interviewee-17 (male, 46) said methamphetamine “*makes you think everything is a conspiracy*” and “*everything is watching you.*” Yet when probed further, some admitted such paranoia was partially justified. For example, Interviewee-11 (female, 48) was paranoid “*a lot*” about the police discovering her husband was a “*meth cook.*” Yet the police did discover his manufacturing lab and both were imprisoned. Likewise, Interviewee-34 (male, 29) became “*more and more paranoid about getting caught*” for dealing GHB, and thought his phone was “*tapped.*” Yet after his friend was imprisoned he discovered “*the police had both phones and all the text messages.*” Interviewee-25 (male, 41) was paranoid about getting caught by his wife, which he agreed was “*pretty rational*” because he was caught. By contrast, Interviewee-32 (male, 31) did not experience paranoia because he “*didn’t give anyone a reason to be after me.*” Likewise, Interviewee-22 (male, 43) used his “*strong mind*” to override his paranoia and hallucinations.

Anxiety

Closely coupled to methamphetamine-induced paranoia is an increase in anxiety, which was mentioned by over half. Interviewee-4 (female, 51) believes anxiety *“is just what the drug does”* to users. Increased anxiety was also attributed to the *“whole enhancement of it all,”* wherein *“adrenaline-fueled”* emotions produce *“excitement and drama”* that causes life to operate at a *“faster pace.”* For Interviewee-10 (female, 48), *“all this action”* made life *“seem so fucking frantic,”* resulting in her feeling she had *“no control”* over these *“overwhelming”* effects.³ For some, methamphetamine merely *“heightened”* their *“drug-induced”* anxiety, while others suffered *“horrible anxiety”* and were *“anxious all the time.”* Due to feeling like *“living on edge all the time,”* they could never be *“relaxed or at peace.”* Instead, they would be *“over-thinking shit”* and *“turning molehills into mountains,”* or *“up and down everywhere”* unable to *“focus on anything.”* Nevertheless, methamphetamine had a psychological calming effect on Interviewees 33 (female, 31) and 35 (male, 23), who could *“just sit there”* without moving *“for days”* playing video games. This indicates they were self-mediating undiagnosed ADHD (Interviewee-35 believes he *“probably”* has ADHD). Likewise, Interviewee-24 (female, 42) developed a physical *“knot of anxiety”* in the side of her torso following her partner’s death by suicide, but after onset *“the knot disappeared”* and *“all of a sudden I felt like myself again”* (temporarily).

Physical violence

During WWII, American, British, German and Japanese military forces dispensed amphetamine to soldiers because of its subjective mood-altering effects. Amphetamine’s consciousness raising properties increased soldiers’ *“fighting spirits”* (Rasmussen, 2008: 82). Likewise, Sommers et al. (2006: 1476) initially stated methamphetamine use *“heightens the risk for violence,”* but because two-thirds of respondents did not commit violence concluded *“violence is not an inevitable outcome”* of even chronic methamphetamine

3 Research by Sommers et al. (2006: 1475) found the most common language respondents used to describe their behavior when on methamphetamine was *“loss of control.”*

use.⁴ This is because the complex interaction between personality and environmental factors exert a powerful influence on methamphetamine-related violent outcomes. Like longitudinal research in Aotearoa-New Zealand which found “most” methamphetamine users “did not engage in violence” (Foulds et al. 2020: 5), only six interviewees admitted to methamphetamine-associated physical violence (on either their young children or partner). Yet they disagree that methamphetamine “causes” violence, instead they believe methamphetamine “heightens” or “amplifies” underlying “anger issues.” Thus, Interviewee-2’s wife said “he was always so kind” to her whilst using because he was the kind of person who would never “purposely try to hurt” her. Likewise, Interviewee-13 (male, 47) said he “would never hit” his wife or “go out and start a fight” because he has “strong morals and ethics.”

Permanent character change

As highlighted above, methamphetamine use induces or is associated with a myriad of transitory changes to interviewees’ character and behaviour. Interviewee-4 (female, 51) believes methamphetamine makes “people change” because they “lose touch” with their “normal self.” Thus when Interviewee-24 (female, 42) “looked in the mirror” she “couldn’t see me”; instead, she thought she “was somebody else.” Some “lost” their “morals” as the “good angel” on their “shoulder got quieter” while the “bad angel got louder,” resulting in them “doing things” they weren’t “proud of.” For example, Interviewee-7 (female, 49) became a “really bad parent” because all she “cared about was meth.” Nevertheless, others stayed morally “true” to themselves because they are the “kind of person” who would never “steal or take from people.” Whilst Interviewee-31 (female, 34) believes methamphetamine users “are never the same after meth,” the majority do not display clear signs methamphetamine use has permanently changed them physically, psychologically or characterologically. Many believe they are “the same person” they were before onset and that their “core never changed”; instead, “it was just

4 Likewise, a comparison between ‘regular meth users’ and ‘non-meth drug users’ found no difference regarding a history of violent crimes (Gizzi and Gerkin, 2010).

suppressed” during use. While Interviewee-19 (female, 45) believes she is “*three-quarters of the way*” back to achieving “*wholeness*,” it took Interviewee-20 (male, 44) 3-years “*to come right*.” And Interviewee-11 (female, 48) experienced “*no ill effects*” from seven years of constant methamphetamine use, and thus “*can honestly say it is definitely recoverable*.” This self-report data is supported by psychopharmacological research, which found that despite long-term high dose methamphetamine use participants’ neurocognitive performance (motor function, explicit memory, executive function and working memory) is either slightly lower or no different than controls. Thus the authors’ concluded “the magnitude of the differences was small and may not have major functional significance” (Johanson et al., 2006).

Spiritual health

Interviewees were asked to reveal their religious or spiritual beliefs and involvement. For two-thirds, neither their family nor school exposed them to organised religion. However, half experienced involvement in a Christian organisation for part of their life. Only three interviewees have been involved in a religious organisation post-methamphetamine use. Nevertheless, one-third consider themselves to have been a “*spiritual person*” most if not all their life, while another seven have been “*into spirituality*” for part or most of their adulthood. This includes being a “*solitary eclectic witch*,” an “*empath*,” a “*healer*,” or a person with “*intuition*” or a “*spiritual connection*” who believes a *higher power* is “*guiding*” and “*protecting*” them. Some believe(d) in “*karma*,” others in New Age spiritualism (e.g. paganism, “*numerology*,” “*yin-yang*” dualism, “*working with crystals*”), while Interviewee-8 (female, 49) stems “*from a line of women who can talk to the dead*.” Half may be considered predominantly a “*realist*” who believes in “*science*” and “*evolution*,” despite also holding some spiritual belief. As Interviewee-13 (male, 47) put it: “*I just need to see something to believe in something*.” The females are more spiritual, the males more realist.

Drug use had no influence on the religious or spiritual beliefs for almost two-thirds. Nevertheless, methamphetamine, ecstasy, psychedelics or cannabis did help increase religious faith or spiritual belief for one-third. Drugs “*pulled*

down barriers” and *“opened the mind,”* which allowed interviewees to be *“more in touch”* with their spirituality and feelings, experience *“oneness with people”* or *“good connections with things.”* However, Interviewee-11 (female, 48) found methamphetamine to be *“soul destroying.”* Even though she *“always held on”* to her *“connection with God”* she felt *“spiritually dead”* inside. This was because she *“lived in a really dark place”* surrounded by *“dark people.”*

For about one-third of interviewees, religion or spirituality helped to decrease drug use and/or maintain the state of desistance. A body of research has shown a higher level of spirituality correlates with less mental distress, less substance abuse, and greater well-being (Seligman, 2011). Religious or spiritual involvement and belief varied for these 13 interviewees.

For five interviewees, formal participation in AA-based 12-step philosophy aided desistance. Interviewee-8 (female, 49) initially completed a 3-month live-in rehabilitation program, then participated in *“many aftercare programs,”* including AA meetings. For her, seeking *“spiritual”* guidance from Jesus or deceased relatives has been *“very helpful toward my recovery,”* because *“it helps to take the load off in stressful times when I am not sure what the answer is.”* Interviewee-11 (female, 48) *“wanted to get clean so badly”* she would pray to God to *“help relieve me from my addiction.”* Being sent to prison on methamphetamine-related charges *“felt like it was God sent”* because she was introduced to Narcotics Anonymous (NA). At NA she *“immediately found something that clicked,”* and knew if she *“worked my program,”* she *“could stay clean for the rest of my life.”* For interviewee-10 (female, 48), desisting from methamphetamine use was *“a by-product”* of quitting heroin, her *“drug of choice.”* With assistance from NA, she considers quitting heroin to have been a *“miracle”* because she *“prayed to God and he took away my obsession.”* She was fully committed to NA for five-years as she finally found *“my tribe,”* or a place of belonging. Interviewee-15 (male, 46) successfully completed a 30-day AA program, which made him believe *“there is something higher than me.”* Instead of God, he chose the ocean as his higher power—because it cannot be controlled—and surfing as a form of meditation. Whilst attending the program he participated in meditation sessions, but within three-months was attaining more psychological benefit

from walks in nature and surfing. As he said, *“As time went on I just got more out of going forward, instead of sitting there with my eyes closed.”*

For four interviewees, religious belief and/or participation in a formal religious organization aided desistance. Throughout his methamphetamine use, interviewee-34 (male, 29) *“always maintained an Anglican conviction,”* and after hitting *“rock bottom”* his Christian faith played such an important part that *“I don’t think I would have got clean without God.”* For interviewee-14 (male, 47), becoming a committed member of a Pentecostal church helped maintain the state of desistance for about three-years (until dissolution of his marriage precipitated another period of use). And at the end of her methamphetamine use interviewee-29 (female, 38) felt let-down and cheated by the people around her. Despite not being Christian she fell to her knees and *“asked the Lord to take it all away.”* She then *“woke up the next day and never touched the stuff again.”* She subsequently joined a Church group because she *“wanted to belong to somewhere that wasn’t into drugs,”* and was, instead, *“into something really good.”*

The remaining four interviewees drew upon their spiritual faith for assistance. Interviewee-32 (male, 31) believes his grandfather’s spirit is watching over him, which acts as a deterrent because if he were to *“make the wrong move”* he would receive some kind of karmic retribution. For interviewee-28 (male, 38), *“dabbling”* in new age spiritualism *“played a part in taking me in a different direction”* away from methamphetamine use. Likewise, interviewee-35 (male, 23) experienced a spiritual epiphany when he unexpectedly encountered estranged relatives when visiting a *marae* (a traditional meeting place for Māori communities). His paternal aunties then showed him pictures of his ancestors hanging on the walls and told him he was *“a direct descendant to that marae.”* Following this *“turning point”* experience he *“decided I wanted to be clean.”* Finally, interviewee-4 (female, 51) believes her spiritual faith helped her end her methamphetamine use, because it allowed her to conceptualize her use as a positive personal growth experience. Despite the negative effects, her experience with methamphetamine was ultimately *“a good thing”* that *“needed”* to happen to help improve her life and marriage.

Discussion and conclusion

Despite extensive poly-drug use and consistently encountering adversity across multiple life domains, two-thirds of interviewees have—like the general population—experienced either minor or no serious physical health issues throughout their life-course. As a result, physical health issues only weakly influenced their drug use. Yet in sharp contrast to the general population, three-quarters either consistently or periodically suffered serious mental and/or emotional distress. Thus mental distress—especially depression, emotional pain, stress or anxiety—contributed to drug use for all but three interviewees. Their drug use provided partial relief from emotional pain or temporary pleasure as they strived to adapt to adversity. Their drug of choice was utilized to ‘mediate’ on behalf of an imbalanced or dysregulated naturally self-healing system that had difficulty managing and maintaining typical emotional responses. Against extant knowledge, this research shows a weak bidirectional relationship between physical and mental health. Whilst the trajectories follow a similar path over the life-course (see Table 2), interviewees’ physical health has been significantly higher than their mental health.

In line with extant knowledge, methamphetamine use initially increased motivation, productivity, energy, self-confidence, a sense of well-being and a feeling of euphoria. Continued use then impacted negatively on productivity, physiological functioning, sleep and diet and increased depression, paranoia, anxiety and isolation. This expectant process appears to align with a popular narrative about methamphetamine use in Aotearoa-New Zealand, which a journalist summarised in this way: “*Try the drug even once, and you’re addicted for ever, hurtling down an unstoppable spiral of despair and destruction*” (Donovan, 2020). However, for almost half extensive methamphetamine and drug use exerted only minimal negative impact on their physical health following desistance. Post-methamphetamine use, in only one case has methamphetamine clearly had a direct contribution on physical health. Thus emerging from methamphetamine use relatively unscathed physically was unexpectedly common for this group of former frequent users. Also contrary to this popular narrative, only a small minority admitted to

methamphetamine-related aggression. More generally, the majority do not display clear signs that methamphetamine use has permanently changed their character. However, an average age of 43 indicates it is too early to make judgments about the long-term effects of methamphetamine use. Since this analysis is based on interviewees' self-assessment, then a full medical examination would obviously provide more robust evidence of their physical health.

It should be noted, however, the main effects on physical and mental health analysed only represent effects that appeared during the course of the interview. Since interviewees did not reveal every detail relating to their methamphetamine use, these effects are likely to be more common than reported. But while this analysis indicates common physical and mental effects, there is no "single, uniform career path" (Sommers et al. 2006: 1476) users follow. Except for sleep deprivation, for every main effect methamphetamine exerted on physical or mental health multiple counter-examples exist. In reality, distress and healing is always a unique and personal experience because each individual has to face their own particular life circumstances and cope with them as best they can (Kabat-Zinn, 1990).

The human species has evolved through hundreds of thousands of years of adversity and trauma. The most common response to adversity is resilience—after a period of mental distress there is typically a return to the previous level of functioning (Seligman, 2011). Moreover, the phenomenon of 'post-traumatic growth' indicates trauma can set the stage for renewed growth (ibid). Positive psychology has shown positive mental health is not merely the absence of mental distress, but rather the presence of positive emotion, engagement, meaning, good relationships and accomplishment—what Seligman (2011: 183) terms human "flourishing." This life-course analysis of *people seeking wellness* shows that mental distress and frequent drug-and-methamphetamine use can be a recoverable physical and mental health disruption. Post-methamphetamine use, interviewees physical and mental health and overall life satisfaction have improved (see Table 2). At the time of the interview, interviewees' mental health and life satisfaction were, on average, the highest they have been.

This relative flourishing is not due to formal religious involvement because only three have been involved in a religious organisation post-methamphetamine use, while half are predominately realists. Nevertheless, for one-third spirituality in some form did help to cease methamphetamine use and/or helps maintain the state of desistance. As interviewee-11 (female, 48) said, “*the best thing I have got back since quitting meth is my connection with my higher self.*” The various spiritual experiences highlighted above show desistance is a process that is sometimes the product of a sudden, unplanned but positive event. Such *quantum change* or *transformational change* involves profound religious, spiritual or secular experiences that not only suddenly alter drug use patterns but also radically redefine self-perception, personal identity and interpersonal relationships. By contrast, the recovery process may also take the form of *incremental change* involving a more gradual time-encompassing reduction or cessation of methamphetamine use. In this process, events and circumstances lead the individual away from methamphetamine and the culture in which his or her methamphetamine use was nested. By utilizing internal and external resources, recovery can come from a surrender and transcendence of self or an assertion of self (or both) (White, 2007).

A prior analysis of the interviewees’ romantic relationships and parenting (Bax, 2021c) found that for all but one of the parents parenting contributed to help decrease or desist from illegal drug use (especially methamphetamine). Their methamphetamine use exerted “*a huge impact on my children’s lives*”; for example, eight of the mothers were either separated from, gave up, or lost custody of at least one child for an extended period of time. Thus realizing their children “*didn’t deserve*” the unstable lifestyle that comes with long-term high-dose methamphetamine use, and desiring to be a “*more productive parent*” and a “*good influence,*” helped contribute to desistance. Since their children’s wellbeing provides a strong motivation to maintain the state of desistance, some or all their children are now receiving appropriate parenting as their more stable post-methamphetamine lives enables them to fulfil their conventional role-related behaviour. As the aforementioned 2018 government inquiry into mental health and addiction stated, relationships with family members “*give lives meaning and provide a potential path back to wholeness*” (Paterson et al., 2018: p. 46).

Importantly, 22-of-the-35 interviewees desisted from methamphetamine use without professional treatment or rehabilitation, thereby adding to the already extensive evidence of “natural recovery” from frequent drug use (Granfield and Cloud, 1999). As Granfield and Cloud (1999) show, recovery from addiction can occur when individuals develop a renewed stake in conventional life, invest in prosocial relationships, and avoid drug users and the situations and cues associated with drug use. In fact, Aotearoa-New Zealand citizens told the 2018 government inquiry that mental and social wellbeing is a function of: good physical health, healthy relationships with family and community, meaningful work and a strong connection to land, culture and history. As the inquiry’s report concluded, “mental wellbeing is most likely when we are safe and secure and feel connected, valued, worthy, accepted for who we are, and hopeful for the future” (Paterson, et al., 2018: 82).

References

- Alexander, B. K. (2008). *The Globalization of Addiction: A study in poverty of the spirit*. Oxford; New York: Oxford University Press.
- Anda, R. F., Felitti, V. J., Felitti, Douglas Bremner, J., Walker, J. D., Whitfield, C., Perry, B. D., Dube, S. R., & Giles, W. H. (2006). The enduring effects of abuse and related adverse experiences in childhood. *European Archives of Psychiatry and Clinical Neuroscience*, 256(3), 174-186.
- Arunogiri, S., Foulds, J. A., McKetin, R., & Lubman, D. I. (2018). A systematic review of risk factors for methamphetamine-associated psychosis. *Australian & New Zealand Journal of Psychiatry*, 52(6), 514-529.
- Bax, T. (2021a). The Adverse Childhood Experiences of Methamphetamine Users in Aotearoa/New Zealand. *International Journal of Criminology and Sociology*, 10, 1430-1442.
- Bax, T. (2021b). The Life Course of Methamphetamine Users in Aotearoa/New Zealand: School, Friendship and Work. *Journal of Criminology*, 54(4), 425-447.
- Bax, T. (2021c). The Life Course of Methamphetamine Users in Aotearoa/New Zealand: The Role of Romantic Relationships and Parenting. *Open Journal of Social Sciences*, 9, 135-153.
- Boeri, M., & Whalen, T. (2009). *Older Drug Users: A Life Course Study of Turning Points in Drug Use, 2009-2010*. Inter-university Consortium for Political and Social Research.
- Boeri, M., Harbry, L., & Gibson, D. (2009). A Qualitative Exploration of Trajectories Among Suburban Users of Methamphetamine. *Journal of Ethnographic & Qualitative Research*, 3(3), 139-151.
- Brinded, P., Simpson, A., Laidlaw, T., Fairley, N., & Malcolm, F. (2001). Prevalence of Psychiatric Disorders in New Zealand Prisons: A National Study. *The Australian and New Zealand Journal of Psychiatry*, 35(2), 166-73.
- Brown, J. R., Hill, H. M., & Lambert, S. F. (2005). Traumatic stress symptoms in women exposed to community and partner violence. *Journal of Interpersonal Violence*, 20(11), 1478-1494.
- Butler, R., Wheeler, A., & Sheridan, J. (2010). Physical and Psychological

Harms and Health

- Consequences of Methamphetamine Use Amongst a Group of New Zealand Users. *International Journal of Mental Health & Addiction*, 8, 432–443.
- Carbone-Lopez, K., Gatewood Owens, J., & Miller, J. (2012). Women’s “Storylines” of Methamphetamine Initiation in the Midwest. *Journal of Drug Issues*, 42(3), 226–246.
- Clausen, J. A. (1993). *American Lives: Looking Back at the Children of the Great Depression*. New York: The Free Press.
- Cohen S., & Rodriguez, M. S. (1995). Pathways linking affective disturbances and physical disorders. *Health Psychology*, 14(5), 374–380.
- Connell, P. H. (1968). Amphetamine Dependence. *Proceedings of the Royal Society of Medicine*, 61(2), 178-181.
- Cusack, K. J., Christopher Frueh, B., & Brady, K. T. (2004). Trauma history screening in a community mental health centre. *Psychiatric Services*, 55(2), 157–162.
- Ding, Y., Lin, H., Zhou, L., Yan, H., & He, N. (2014). Adverse childhood experiences and interaction with methamphetamine use frequency in the risk of methamphetamine-associated psychosis. *Drug and Alcohol Dependence*, 142, 295–300.
- Donovan, E. (2020). Meth: The shameful drug addicts don’t seek help for. *Microsoft News*, July 8. Retrieved July 8, from <https://www.msn.com/en-nz/news/national/meth-the-shameful-drug-addicts-don-t-see-help-for/ar-BB16rIUA?ocid=msedgntp>
- Dube, S. R., Anda, R. F., Felitti, V. J., Edwards, V. J., & Croft, J. B. (2002). Adverse childhood experiences and personal alcohol abuse as an adult. *Addictive Behaviors*, 27(5), 713-725.
- Durie, M. (1985). A Maori perspective of health. *Social Science and Medicine*, 20(5), 483-486.
- Clayton, Tristram. 2017. Kiwi criminals deported from Australia strengthening gangs. *New Zealand Herald* (February 24).
- Engel, G. L. (1977). The need for a new medical model: a challenge for biomedicine. *Science*, 196(4286), 129-136.
- Foulds, J. A., Boden, J. M., McKetin, R., & Newton-Howes, G. (2020). Methamphetamine use and violence: Findings from a longitudinal birth

- cohort. *Drug and Alcohol Dependence*, 207(1), 1-7.
- Giele, J. Z., & Elder, G. H. (1998). Life Course Research. Development of a Field. In, Janet Z. Giele and Glen H. Elder (eds.), *Methods of Life Course Research: Qualitative and Quantitative Approaches* (5-27). Thousand Oaks, CA: Sage Publications.
- Gizzi, Mi C. Gizzi, and Patrick Gerkin, P. (2010). Methamphetamine Use and Criminal Behavior. *International Journal of Offender Therapy and Comparative Criminology*, 54(6), 915–936.
- Granfield, R., & Cloud, W. (1999). *Coming Clean. Overcoming Addiction Without Treatment*. Foreword by Stanton Peele. New York and London: New York University Press.
- Halkitis, P. N., Fischgrund, B. N., & Parsons, J. T. (2005). Explanations for Methamphetamine Use Among Gay and Bisexual Men in New York City. *Substance Use & Misuse*, 40(9-10), 1331–1345.
- Homer B, Solomon T, Moeller R, Mascia A, DeRaleau L, Halkitis P. (2008). Methamphetamine abuse and impairment of social functioning: a review of the underlying neurophysiological causes and behavioral implications. *Psychological Bulletin*, 134(2), 301–310.
- Hser, Y., Longshore, D., & Douglas Anglin, M. (2007). The Life Course Perspective on Drug Use: A Conceptual Framework for Understanding Drug Use Trajectories. *Evaluation Review*, 31(6), 515-547.
- Joe, K. A. (1996). The Lives and Times of Asian-Pacific American Women Drug Users: An Ethnographic Study of Their Methamphetamine Use. *Journal of Drug Issues*, 26(1), 199-218.
- Johanson, C-E., Frey, K. A., Lundahl, L. H., Keenan, P., Lockhart, N., Roll, J., Galloway, G. P., Koeppe, R. A., Kilbourn, M. R., Robbins, T., & Schuster, C. R. (2006). Cognitive function and nigrostriatal markers in abstinent methamphetamine abusers. *Psychopharmacology*, 185, 327–338.
- Johnson, A. (2018). *Kei a Tatou. It is us. State of the Nation Report*. Wellington: The Salvation Army Social Policy and Parliamentary Unit.
- Kabat-Zinn, J. (1990). *Full Catastrophe Living: Using the Wisdom of Your Body and Mind to Face Stress, Pain and Illness*. New York: Delta.
- Laub, J. H., & Sampson, R. J. (2003). *Shared Beginnings, Divergent Lives. Delinquent Boys to Age 70*. Cambridge, Massachusetts: Harvard

University Press.

- Lee, C. H. J., Duck, I. M., & Sibley, C. G. (2017). Ethnic inequality in diagnosis with depression and anxiety disorders. *New Zealand Medical Journal*, 130(1454), 10-20.
- Lende, D., Leonard, T., Sterk, C., and Elifson, K. (2007). Functional methamphetamine use: The insider's perspective. *Addiction Research and Theory*, 15(5), 465-477.
- Maté, G. (2008). *In the Realm of Hungry Ghosts: Close Encounters with Addiction*. Berkeley: North Atlantic Books.
- McKetin, R. (2018). Methamphetamine psychosis: insights from the past. *Addiction*, 113(8), 1522-1527.
- McKetin, R., McLaren, J., Lubman, D. I., & Leanne H. (2006). The prevalence of psychotic symptoms among methamphetamine users. *Addiction*, 101(10), 1473-1478.
- McKetin, R., Lubman, D. I., Baker, A. L., Dawe, S., Ali, R. L. (2013). Dose-related psychotic symptoms in chronic methamphetamine users: evidence from a prospective longitudinal study. *JAMA Psychiatry*, 70(3), 319-24.
- McKetin R, Lubman D, Najman J, Dawe S, Butterworth P, Baker A. 2014. Does methamphetamine use increase violent behaviour? Evidence from a prospective longitudinal study. *Addiction*, 109(5), 798–806.
- Messina, N., Marinelli-Casey, P., Hillhouse, M., Rawson, R., Hunter, J., & Ang, A. (2008). Childhood Adverse Events and Methamphetamine Use Among Men and Women. *Journal of Psychoactive Drugs*, 40(sup5), 399-409.
- Ministry of Health. (2008). *A Portrait of Health. Key Results of the 2006/07 New Zealand Health Survey*. Wellington: Ministry of Health.
- Ministry of Health. (2012). *The Health of New Zealand Adults 2011/12: Key findings of the New Zealand Health Survey*. Wellington: Ministry of Health.
- Ministry of Health. (2014). *Amphetamine Use 2015/16: New Zealand Health Survey*. Wellington: Ministry of Health.
- Ministry of Health. (2014b). *Annual Update of Key Results 2013/14: New Zealand Health Survey*. Wellington: Ministry of Health.

- Ministry of Health. (2016). *Amphetamine Use 2015/16: New Zealand Health Survey*. Wellington: Ministry of Health.
- Ministry of Health. (2019). *Amphetamine Use 2018/19: New Zealand Health Survey*. Wellington: Ministry of Health.
- Misuse of Drugs Act. (1975). Retrieved July 20, 2023, from <http://www.legislation.govt.nz/act/public/1975/0116/latest/DLM436101.html>
- Oakley Browne, M. A., Wells, J. E., Scott, K. M., & McGee, M. A. (2006). Lifetime prevalence and projected lifetime risk of DSM-IV disorders in Te Rau Hinengaro: The New Zealand Mental Health Survey. *Australian and New Zealand Journal of Psychiatry*, 40(10), 865-874.
- Ohler, N. (2016). *Blitzed. Drugs in Nazi Germany*. London: Allen Lane.
- Paterson, R., Durie, M., Disley, B., Rangihuna, D., Tiatia-Seath, J., & Tualamali'I, J. (2018). *He Ara Oranga. Report of the Government Inquiry into Mental Health and Addiction*. Wellington: Ministry of Health.
- Policy Advisory Group. (2009). *Tackling Methamphetamine: An Action Plan*. Wellington: Department of the Prime Minister and Cabinet.
- Rasmussen, N. (2008). *On Speed: From Benzedrine to Adderall*. New York University Press: New York and London.
- Scott, K. M., McGee, M. A., Oakley Browne, M. A., & Wells, J. E. (2006). Mental disorder comorbidity in Te Rau Hinengaro: The New Zealand Mental Health Survey. *Australian and New Zealand Journal of Psychiatry*, 40(10), 875-881.
- Scott, K. M., Oakley Browne, M. A., McGee, M. A., Wells, J. E. (2006). Mental-physical comorbidity in Te Rau Hinengaro: The New Zealand Mental Health Survey. *Australian and New Zealand Journal of Psychiatry*, 40(10), 882-888.
- Seligman, M. E. P. (2011). *Flourish: A Visionary New Understanding of Happiness and Well-being*. New York: Atria.
- Sheridan, J., Butler, R., & Wheeler, A. (2009). Initiation into Methamphetamine Use: Qualitative Findings from an Exploration of First Time Use Among a Group of New Zealand Users. *Journal of Psychoactive Drugs*, 41(1), 11-17.
- Sommers, I., Baskin, D., & Baskin-Sommers, A. (2006). Methamphetamine

- use among young adults: Health and social consequences. *Addictive Behaviors*, 31(8), 1469-1476.
- Szalavitz, M. (2016). *The Unbroken Brain: A Revolutionary Way of Understanding Addiction*. New York: St Martin's Press.
- Teruya, C., & Hser, Y. (2010). Turning Points in the Life Course: Current Findings and Future Directions in Drug Use Research. *Current Drug Abuse Review*, 3(3), 189-195.
- Vaillant, G. (2012). *Triumphs of Experience: The Men of the Harvard Grant Study*. Cambridge, MA; London: Harvard University Press.
- Wallace, C., Galloway, T., Mcketin, R., Kelly, E., & Leary, J. (2009). Methamphetamine use, dependence and treatment access in rural and regional North Coast of New South Wales, Australia. *Drug and Alcohol Review*, 28(6), 592–599.
- Weil, A. (1995). *Spontaneous Healing. How to Discover and Enhance Your Body's Natural Ability to Maintain and Heal Itself*. Ballantine Books: New York.
- White W. (2007). Addiction recovery: its definition and conceptual boundaries. *Journal of Substance Abuse Treatment*, 33(3), 229–41.
- Wilkins, C., Prasad, J., Wong, K. Y., & Rychert, M. (2015). *Recent Trends in Illegal Drug Use in New Zealand, 2006-2014. Findings from the Illicit Drug Monitoring System*. Auckland: SHORE and Whariki Research Centre, College of Health, Massey University.
- Wilkins, C., Prasad, J., Wong, K., Rychert, M. (2017). *Recent Trends in Illegal Drug Use in New Zealand, 2006-2016. Findings from the Illicit Drug Monitoring System*. Auckland: SHORE and Whariki Research Centre, College of Health, Massey University.
- Zweben J, Cohen J, Christian D, Galloway G, Salinardi M, Parent D, et al. (2004). Psychiatric symptoms in methamphetamine users. *American Journal on Addictions*, 13(2), 181–190.