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The Relationship Between Alcoholism and Satisfaction with Life

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Abstract

The purpose of this study was to examine the relationship between alcoholism and satisfaction with life. The sample was selected from students and non-students at Montclair State University. The materials were two questionnaires, the Michigan Alcoholism Screening Test (MAST) and the Satisfaction With Life Scale (SWLS). The MAST had 25 questions and the SWLS had 5 questions. These questionnaires were given to subjects at a staged bake sale. The participants filled out the questionnaires and put the completed forms into marked boxes to preserve anonymity.

The data was analyzed by correlating MAST and SWLS scores. It was expected that there would be a strong negative correlation between MAST score and SWLS score, for all groups, meaning a strong negative correlation between alcoholism and satisfaction with life.

The results of the study showed an expected significant negative relationship between alcoholism and satisfaction with life for the total sample and a stronger relationship for the alcoholic group.

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The Relationship Between Alcoholism And Satisfaction With Life

by

Michael Albert

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The estimated lifetime prevalence of alcoholism is 30% (Hasin, Stinson, Ogburn, & Grant, 2007). It is common knowledge that alcohol abuse leads to crime, poverty, and disease. For many with mental illness, alcohol has played a part in it. Some people recover from alcoholism and some don't. Alcohol can cause family, financial, physical, and emotional problems in someone's life. Alcohol will make a person seem to be happy temporarily. However, alcohol in fact can make a drinker and those around him unhappy. How one handles alcohol can influence quality of life. Some people can moderate, some can use alcohol in moderation, some can abstain from alcohol. Some recover from alcohol abuse, and some never recover. Some people have the problem all of their lives, and some die from it or die of a disease it has exacerbated. For all of these examples, alcohol influences satisfaction with life. There are many psychological parameters similar to satisfaction with life, such as quality of life, subjective happiness, and well-being. These parameters may be similarly affected by alcohol. Satisfaction with life may involve career, finances, family, sexuality, activities, and socialization, all of which may be affected by alcohol.

Studies have researched many topics involving alcoholism. These topics include stress and how it relates to alcoholism (Enoch, 2011), and the endogenous opioid system, also known as the pleasure principle (Gianoulakis, 2001). Alcohol affects communication, especially in clinical settings (Korthuis et al., 2011), and follows known trajectories over a lifetime (Sher, Gotham, & Watson, 2004). Some alcoholics recover, and some of these accomplish this by going to AA. In recovery they improve their well-being and satisfaction with life (Kairouz & Dube, 2000). Alcohol is associated with family dysfunction which influences children in the family. Drinking among the aged is

associated with health problems and negativity (Wagnaar, Mickus, & Wilson, 2001). Satisfaction with life can be looked at in terms of metacognition, or "thinking about thinking," cognitive sense of self, and self speech. Alcohol will affect any type of cognition and then may influence satisfaction with life (Lysaker, Glynn, Wilkniss, & Silverstein, 2006). Satisfaction with life may have a set point, which is a stable level of satisfaction for most of one's life (Fujita & Diener, 2005).

Background Literature Review

Stress and Alcoholism

Alcoholism in a family can be passed on to future generations, not only by genes and heredity, but also by stress. Alcoholism is more likely to occur where there is early life stress. This is true especially in the first few years, before puberty (Enoch, 2011). Early life stress can cause permanent neurohormonal and hypothalamic-pituitary-adrenal axis changes, morphological changes in the brain and gene expression changes in the mesolimbic dopamine reward pathway, making addiction more likely. This is because alcohol interacts with chemicals in the brain, changing brain structure. There are mediating factors such as gene-environment interactions and family and peer relationships which give rise to resilience. In other words, gene-environment interactions and family and peer relationships may prevent alcoholism (Enoch, 2011). The heritability of alcoholism is about 50% (Goldman, Oroszi, & Ducci, 2005). Studies show that sons of those with alcohol dependency have a 4- to 9-times greater risk of alcoholism (Enoch, 2011). Daughters may show similar disposition because alcoholism "runs" in families (Enoch, 2011), but alcohol abuse and dependency are twice as common in men as in women (Hasin et al., 2007). Although there is a genetic component, alcoholic

parents are more likely to expose the child to early life stress, thus increasing the chances of alcoholism (Anda et al., 2002; Eaves, Prom, & Silberg, 2010; Verona & Sachs-Ericsson, 2005). Other studies show early life stress and alcoholism to be independent of each other (Anda et al., 2002). Stress can affect satisfaction with life because no one likes stress. On the other hand, overcoming stress may lead to achievement, like accepting a difficult task. But if alcoholism can be caused by stress, then dissatisfaction caused by alcohol can be indirectly caused by stress.

Early life stress is thought to contribute to the risk of alcoholism later in life. NESARC, the National Epidemiologic Survey on Alcohol and Related Conditions showed two or more early life stressors (before age 18) increased the risk for alcohol dependence (Pilowsky, Keys, & Hasin, 2009). These stressors include parental divorce, family violence, economic adversity, parental death, mental illness, childhood maltreatment, or childhood sexual abuse (Goldman, Salus, Wolcott, & Kennedy, 2003; Goldman-Brown, Edelstein, Goodman, Jones, & Gordon, 2003). Some studies show early life stress as a cause of alcohol use more for women than for men, but more longitudinal studies are needed (Widom, White, Czaja, & Marmorstein, 2007). The factors that cause the stress are things that lead to less satisfaction with life. Divorce, family violence, economic adversity, parental death, mental illness, childhood maltreatment, and childhood sexual abuse are all unpleasant life experiences. Unpleasant life experiences lead to lower satisfaction with life. If these factors cause alcoholism, the alcoholism they cause may be related to dissatisfaction with life. Since alcoholism runs in families and can cause stress to be transferred from one generation to another,

dissatisfaction with life also may run in families. Thus, lower satisfaction with life may run in families, perpetuated in part by alcohol.

Stress influences the development of the reward or pleasure mechanisms of the brain. Stress causes the release of the glucocorticoid hormone "cortisol," the activation of the HPA axis, release of the hormone CRH, and activity in the peripheral catecholamine systems, which are necessary for survival (Sapolsky, Romero, & Munck, 2000). The long term effects of early life stressors on adults are that the brain releases less cortisol and there is increased cortical reaction to stress (Tarullo & Gunnar, 2006). Changes that occur in the brain that lead to increased susceptibility to addiction include a smaller corpus callosum and a smaller left neocortex (Tiecher et al., 2003). The reward mechanisms of the brain are part of this interaction. Stress changes the physical size of some parts of the brain and changes the chemistry of the brain. Chronic activation of cortisol secretion, the HPA axis, the hormone CRH, and peripheral catecholamine systems increases the risks for anxiety, depression, and drug and alcohol addiction (Sapolsky, Romero & Munck, 2006). Possible lower satisfaction with life due to stress may contribute to alcoholism. This may be due to changes in the brain and brain chemistry.

Addiction is a cycle of preoccupation and anticipation, binge intoxication and withdrawal, and negative effect (Koob, 2003). In other words, the person drinks, and then it wears off, and then the person wants to drink again. The positive effect is euphoric reinforcement, and the negative effect is anxiolytic reinforcement. Negative reinforcement dominates the progression of the disease (Enoch, 2011). The person drinks

to avoid feeling bad and to avoid a hangover. The person drinks because feeling normal is not as euphoric as feeling drunk.

There are two types of alcohol addiction: abuse and dependence. Of the two types of alcohol addiction, alcohol abuse is less severe than alcohol dependence (DSM-IV, 2000). When added together, alcohol addiction occurs in 42% of men and 19.5% of women (Enoch, 2011). One reason people drink is to feel good and alleviate stress. The negative reinforcement causes a perceived need for more alcohol. The brain craves more alcohol because lack of alcohol is perceived as a bad feeling, like a pain or a need. The drinker thinks they are making their lives more satisfying, but only temporarily. The drinker expects to have higher satisfaction with life but needs to keep drinking to maintain this expectation.

Of the two types of alcoholism—abuse and dependence—abuse is a maladaptive pattern of alcohol use that leads to problems at work, school, and home, physical hazard, legal problems, and interpersonal problems. Alcohol dependence involves tolerance and withdrawal, drinking more than intended, a desire and inability to cut down, more time spent obtaining alcohol, alcohol interfering with relationships, activities, and socializing, and alcohol use despite physical problems (Wagnaar et al., 2001). Both types of alcoholism are thought to lead to lower satisfaction with life.

The Endogenous Opioid System

The human brain contains a survival mechanism where people want to do more of whatever "feels good" and avoid whatever "feels bad." For example, we eat when we are hungry and we avoid danger. It feels bad to be in danger and it feels good to be safe. This is the endogenous opioid system. Freud (1922) and Watson (1997) called this the

pleasure principle. The endogenous opioid system is involved in the modulation of pain and stress, reward and punishment, hunger, thirst, and temperature (Khachaturian, Lewis, Schafer, & Watson, 1985). This mechanism should bring about happiness, or satisfaction with life. Alcohol can disrupt this system because alcohol gives the brain a false sense of well-being. It should be perceived as danger by the brain but is not registered as danger. Ethanol stimulates the release of opioid peptides in the brain, including beta endorphin. Opioid peptides are meant to stimulate dopamine release in synapses of the brain to reinforce positive or negative stimuli. The release due to alcohol mediates the reinforcement mechanisms of the brain as they react to alcohol. Alcohol causes a short-term pleasure response, and then a longer term pain response. In other words, dopamine increases at first and then is depleted. Chronic and heavy use of alcohol gives the brain a central opioid deficiency which is perceived as withdrawal, causing a craving for more alcohol. This is negative reinforcement because a bad feeling makes the drinker sense discomfort or danger to be avoided. Some people have a genetic predisposition to be addicted to alcohol. There are genes that alter the kinetic properties of alcohol dehydrogenase (ADH) and aldehyde dehydrogenase (ALDH). Some people have more active ADH enzymes. These are meant to lead to rapid conversion of alcohol to acetaldehyde. Some people have more inactive ALDH, leading to acetaldehyde accumulation. Both of these effects are protective and lead to less alcoholism (Edenburg, 2007). This may also be due to differences in the endogenous opioid system and the effectiveness of opioid receptor antagonists (Gianoulakis, 2001). A lower level of gratification occurs because of alcohol, which over time may be perceived as lower satisfaction with life.

The endogenous opioid system has three main functions: the modulation of the response to pain and stress, the reward and reinforcement function, and the functions of body temperature and food and water intake. There are known precursor molecules and known opioid receptors responsible for these functions. Some of these opioid receptors release dopamine to bring about reinforcement (Koob, 1992). Dopamine is released in the nucleus accumbens and rewards the system for positive stimuli and brings about searching for more of the positive stimuli. Some opioid peptides, chemicals called dynorphins, come from precursor molecules and bind to κ receptors, decreasing dopamine and preventing reinforcement (Charmes, 1989). These opioid peptides are produced from prodynorphin for the homeostatic functions like food, water, and temperature regulation. These chemicals, the dynorphins, may inhibit alcohol consumption (Herz, 1997; Jamensky & Gianoulakis, 1989). Dynorphins inhibit both the temporary rise in dopamine and the long-term depletion in dopamine later. The person is now satisfied more by true positive stimuli not masked by alcohol and alcohol's release of dopamine. The person now avoids negative stimuli more than avoiding dopamine depletion from alcohol. The person avoids more things that are dissatisfying. If alcohol consumption is inhibited, satisfaction with life may be enhanced.

Parts of the brain in the reward system include the midbrain, forebrain, and the extrapyramidal circuit of the nucleus accumbens. Alcohol and drugs increase dopamine release in the nucleus accumbens. The effects of drugs and alcohol are mediated by the mesolimbic dopamine pathway, a group of neurons (Koob, 1992; Sprangel & Weiss, 1999). These mechanisms mediate the development and path of alcoholic behavior (Sprangel, Herz, & Shippenberg, 1999; Hodge, Samson, & Chappelle, 1997). It is

beneficial to mediate the effects of drugs and alcohol, because then the opioid reward system is intact. If dopamine is released without positive stimuli and is depleted in the presence of positive stimuli, the positive things in life are not pursued and the negative things are not avoided. Low satisfaction with life will be caused by avoiding positive stimuli and being in the presence of negative stimuli.

Alcohol affects different people differently. There is genetic variability in the endogenous opioid system. These differences may mediate the effects of alcohol and the control of alcohol consumption. There has been evidence that low basal levels of beta endorphin, which is part of the opioid circuit, may indicate a genetic weakness for alcohol (Gianoulakis, 2001). This may also indicate different levels of satisfaction with life.

It has been shown that opioid receptor antagonists Naloxone and Naltrexone, as well as other selective opioid receptor antagonists, reduce alcohol consumption in animals (Herz, 1997; Heyzer, Roberts, Schulteis, & Koob, 1999). Naltrexone and Nalmefene have been shown to work for humans, but Naltrexone has been shown to cause hepatotoxicity (O'Malley, 1996; Volpicelli, Volpicelli, & O'Brian, 1995; Mason, Rivito, & Morgan, 1994). A solution to alcoholism might bring about more satisfaction with life. If alcohol and its false reward are not needed, alcohol will be at least somewhat avoided. Reward will be for satisfying things in life, not feelings that are brought on by alcohol.

Communication

Alcohol can affect communication, which is important to satisfaction with life. In a study of HIV patients—Enhancing Communication and HIV Outcomes or ECHO—

provider-patient communication quality was lower for patients who had alcohol problems than with patients without alcohol problems (Korthuis, et al., 2011). Better provider-patient communication increased the chances of favorable outcomes by better antiretroviral adherence, fewer E.R. visits, and increased primary care (Turner, Laine, Cosler, & Hauck, 2003; Turner, Laine, Young, & Hauck, 2003; Messeri, Abramson, Aidala, Lee, & Lee, 2002). The better the care and outcomes and the fewer E.R. visits, the more there is happiness and satisfaction with life. Alcohol is affecting the treatment of a deadly disease. A deadly disease will bring about lower satisfaction with life. This dissatisfaction can be in the form of fear, anxiety, and depression, because these are emotions associated with a severe illness. Patient communication is influenced by substance abuse treatment, patient gender, race/ethnicity, health status, socioeconomic status, and provider gender (Korthuis & Fleishman, 2008; Bing, Burnam, Longshore, 2001; Andersen, Bozzette, & Shapiro, 2000; Beach, Saha, & Korthuis, 2010; Johnson, Roter, Powe, & Cooper, 2004; Hall, Roter, Milburn, & Daltroy, 1996; Epstein, Taylor, & Seage, 1985; Hall, Irish, Roter, Ehrlich, & Miller, 1994). All of these variables then affect satisfaction with life. The alcoholic components of the study suggest that alcohol can lead to lower satisfaction with life because of mental illness, homelessness, and discrimination. These were part of the Addiction Severity Index which was used (Korthuis et al., 2011). There was a baseline questionnaire and interviews which rated quality of communication based on positive talk, complaints, information giving, results, biomedical talk, psychosocial/lifestyle talk about sex, patient engagement, options, and understanding. The method had good inter-rater reliability (Korthuis et al., 2011). These variables also may relate to satisfaction with life. The better a subject understands the

treatment, the better the treatment works, leading to better health and more satisfaction with life. Substance abuse was also measured. The interviews included questions from the Addiction Severity Index (ASI). Patients were asked to report on their current use and history of alcohol or drug use (Cacciola, Alterman, & McLellian, 2007). Patients were asked: "How many days in the past 30 days have you used alcohol? How many of these days did you use illicit drugs? How many years of your life have you used alcohol to intoxication? Or drugs?" Regular use meant three or more times per week, binges, or where other activities are compromised. Answers were categorized into current use, past use, or no problem (Korthuis et al., 2011). These questions measure alcoholism similarly to the Michigan Alcoholism Screening Test (MAST) questionnaire. Covariates were gender, race/ethnicity, education level, antiviral therapy (or not), CD4 count, and depression. Drug use increased quality of communication, but this may be because of a covariate like agreeing just to agree or undetected apathy (Korthuis et al., 2011). Covariates like these may or may not influence satisfaction with life or alcoholism.

Drinking was found to decrease time of communication, engaging/activity statements, psychosocial counseling statements, and rating of quality of communication. Bakken et al. (2000) stated that patient engagement is proportional to health care provider adherence. In general medical patients, more patient activation leads to improved self-managed behaviors and better outcomes from chronic illness (Hibbard, Mooney, Stock, & Tusler, 2007). The study shows that alcohol use sabotages patient-provider communication, leading to unhealthy outcomes. Lack of satisfaction with life could be an unavoidable consequence of this lack of communication.

Life Trajectories in Alcoholism

According to Schulenberg, Wadsworth, O'Malley, Bachman, and Johnston (1996), there are five trajectories in binge drinking. These are chronic, remitting, fling, late onset, and non-diagnosing. Binge drinkers in a chronic trajectory drink steadily throughout their entire drinking life. Those in the remitting trajectory drink slightly less throughout a period of time, then decreasing faster for a time, and then gradually less later in life. Those on a fling trajectory steadily increase, then drink maximally for another period, and then taper off years later in life. Late onset trajectory binge drinkers start drinking after a long period of non-binge drinking, and then steadily increase to a maximum level in later years. Non-diagnosing is the trajectory for those who nearly never binge drink at all (Schulenberg et al., 1996). All of these trajectories are lifelong and therefore do not just possibly influence individuals' happiness for short periods of time. They may influence people's satisfaction with life for their entire lifetime.

The greatest alcohol use occurs in young adulthood. It is commonly started at age 15, increases to age 21, and then decreases in the late 20s (e.g., Chen & Kantel, 1995; Johnston, O'Malley, & Bachman, 2000). For those with alcohol abuse and dependence, the disease runs parallel to this trajectory, peaking in the person's 20s and falling off gradually thereafter. This makes MSU students a good sample. Although lifelong parameters are under consideration, this may be the age where these lifelong habits are formed or are at their most noticeable (Grant, Harford, Dawson, Chou, Dufour, & Pickering, 1994). Transitions such as marriage or entering a job market cause "maturing out," or a reduction of alcohol abuse (Schulenberg et al., 1996). Alcohol use diseases are chronic and progressive but not necessarily permanent (Sher et al., 2004). Scales used to

investigate these trajectories include the Short Michigan Alcoholism Screening Test (SMAST) and its paternal version, the longer original version, the F-SMAST, to detect patterns (Seltzer, Vinokur, & Van Rooijen, 1975; Crews & Sher, 1992). Dynamic predictors are variables found to predict remission and trajectories. Among these are mood modification, celebration, sensation-seeking reasons, performance-enhancement expectancies from alcohol, restrained drinking items, general psychological distress, adult antisociality, and peer-involvement (Sher et al., 2004). Most of these may occur in a person's lifetime without alcohol.

Alcoholics Anonymous and Recovery

Some people may blame alcohol for a low satisfaction with life, and they may take steps to counteract this. An example is Alcoholics Anonymous (AA). In a study involving abstinate AA members and several non-alcoholic samples a rating of well-being was shown to be related to the amount of time the AA member had been sober. The non-alcoholic and the non-abstinate alcoholic group both rated the abstinate AA group. Of all of the samples, the AA group self-reported the lowest well-being. The non-alcoholic groups rated the abstinate AA member more positively than the non-abstinate alcoholic group rated the abstinate AA group. Non-alcoholic people perceive people in AA to have greater well-being. Non-abstinate people perceive abstinate AA members as having less well-being. People who drink may think that continuing to drink leads to more well-being (Kairouz et al., 2000). Positive well-being might be very similar to satisfaction with life. Efforts to reduce alcohol consumption may increase satisfaction with life. The destructiveness of alcohol lowers well-being, and causes depression and a feeling of meaninglessness (Hartka et al., 1991; Lippman, Manshadi,

Christine, & Gultekin, 1987; McMahon & Davidson, 1986; Brickman, 1987; Crumbaugh, 1968; Crumbaugh & Manolick, 1964; Waisberg & Porter, 1994). People who become alcoholic lose their control and become addicted. Intoxication becomes a temporary relief to negative feelings, hangovers, and stigma. Stigma is a social or public negativity towards a type of person.

Theorists on the subject of alcoholism believe abstinence is a behavioral change, which occurs at a specific time in recovery (Bean, 1975a, 1975b; Brown, 1985; Prochaska, Diclamente, & Norcross, 1992). There is a decrease in negative feelings and more meaning (Brown & Schukit, 1988; Caroll, 1993; Jacobsen, Ritter, & Mueller, 1977; Waisberg & Porter, 1994).

Part of how alcoholism may lower satisfaction with life is stigma. Stigma towards alcoholics affects their well-being (Croker & Major, 1989). But during recovery, this is overcome (Jones & Davis, 1963). There can be a difference between self-evaluation and others' perception (Anderson & Ross, 1984; Johnson, 1987; McGuire & McGuire, 1986). Higher well-being among abstinate AA members and an even higher well-being of non-alcoholic samples suggest a likely negative correlation between lack of alcoholism and satisfaction with life.

Aged Drinking

The sample best suited to evaluate satisfaction with life may be the aged, who have more experience with life than the sample used for this study. The aged have an added risk factor because they have fewer obligations. A study was done by Wagnaar, Mickus, and Wilson (2001) to investigate drinking by the aged. The scales used were the CAGE questionnaire and the Michigan Alcohol Screening Test-Geriatric Version (King,

1986; Barry & Blow, 1999). The letters C, A, G, and E each stand for one of the four questions in the scale. "C" stands for the question "Do you want to cut down on your drinking?" "A" stands for "Do you feel annoyed by others criticizing your drinking?" "G" stands for "Do you feel guilt over your drinking?" "E" stands for "Do you need an 'eye-opener,' meaning a drink in the morning?"

These scales are similar to the ones used to investigate the possible relationship between alcoholism and the satisfaction with life (Peterson & Zimberg, 1996). The National Counsel on Alcoholism and Drug Dependence says that alcoholism is a primary, chronic disease, with genetic and environmental factors causing its development and manifestation (Goldstein, Pataki, & Webb, 1996; Morse & Flavin, 1992). The National Institute on Alcohol Abuse & Alcoholism (NIAAA) says men over 65 should have 14 drinks or less per week, and women over 65 should have 7 drinks or less per week. These are maximums; the best course of action is to not drink at all. The NIAAA also says 15% of men and 12% of women exceed these limits (Adams, Berry, & Flemming, 1996). Exceeding these limits can bring about lower satisfaction with life. Part of this is because men and women over 65 have more health problems, a possible source of unhappiness. Older people may have more anxiety and other negative feelings because of more difficulties functioning, such as with finances or chores, and because of family and caregiver concerns. In older alcoholics, there are additional risks for alcohol exacerbating diseases like macrocytic anemia, peptic ulcer, hyperglycemia, diabetes mellitus, and many others (Goldstein et al., 1996). Elderly alcoholics in detox can be treated with short-acting benzodiazepines like Lorezepam and Oxazepam every 4-6 hours (Wagnaar et al., 2001). An elderly sample would be anticipated to report a lower

satisfaction with life related to alcohol, similar to the same study being done on a younger group.

Cognition and Metacognition

Details about a person's cognition may influence either their involvement with alcohol or their satisfaction with life. The STAND tool, or Scale to Assess Narrative Development, measures a person's cognitive sense of self and self-speech (Lysaker et al., 2006). The Metacognition Assessment Scale, MAS, measures one's ability to "think about thinking" (Semerari et al., 2003). These have been applied to evaluating depression and schizophrenia. Relationships are found that are useful in treatment of alcoholism and satisfaction with life. Deficits in personal narrative are linked to less self-worth. Deficits in metacognition are linked to an inability to understand feelings of self and others. Both self-worth and the feelings of self and others are important to satisfaction with life. Self-worth is believing in yourself. The feelings of yourself and others tell you how to relate to others. Low self-worth and inability to understand feelings may be found to contribute to alcoholism. These findings indicate that the treatment of alcoholism should include treatment involving self-narrative for self-worth, and metacognition for feelings and feelings of others (Lysaker et al., 2010). These both may be regarded as cause and effect in alcoholism. The desired effect is higher quality of life or satisfaction with life. Metacognition and self-narrative may achieve this result, and alcohol may hinder this result.

Set Point for Life Satisfaction

A study was conducted to investigate a possible set point for life satisfaction. A correlation was found suggesting a more stable life satisfaction, or a relatively unchanging level of life satisfaction, is correlated with higher level of life satisfaction in general (Fujita, et al., 2005). Part of the relevance of this to the alcoholism and satisfaction with life study is that satisfaction with life can be measured. It is being measured at one point in time but it can be extrapolated to the rest of the subject's life as being stable or not stable. This is important because alcoholism even with recovery is usually a lifelong condition. People are controlling or avoiding alcohol use for a long time and need long-term, stable results (Fujita, et.al., 2005).

Hypothesis

It was hypothesized that there would be a strong negative correlation between alcoholism and satisfaction with life. The rating of alcoholism included 25 questions found in the MAST by M. Selzer. Satisfaction with life included 5 questions about life from the SWLS by E. Diener. The null hypothesis was r=0 for all groups. Alpha=.05, Beta=.05. The null hypothesis for the t-tests for comparing SWL means was that P>.05.

Method

Participants

The sample was from the population of people who have access to, and may or may not be involved with, alcohol. The sample consisted of Montclair State University students and employees. Subjects were mostly students working on bachelor degrees, age 18 to 22. Several were graduate students from age 22 to later 20s and then a few were in their 30s or older. This sample contained people representing many ethnic and

international backgrounds. There were 49 female and 34 male subjects. Those who disclosed their ethnic identity included 16 Hispanics, 21 Europeans, 9 Asians, 9 African-Americans, and 17 from other ethnicities. Most of the subjects probably had a few years of work experience. It is suspected there were a few subjects who were not under parental supervision for the first time in their lives. Some of the subjects were commuters and some were people who live on campus. Informed consent was obtained.

Procedure

The study's script and instructions along with the questionnaires and consent forms were handed to students of MSU at a pretend bake sale. Snacks were provided at a table, and students were solicited and given questionnaires to fill out concerning alcoholism, satisfaction with life, and demographic data. This was done on Wednesday, January 30 and Friday, February 1 from 10:00 a.m. to 2:00 p.m. at the MSU Student Center. The number of subjects responding was 85 (n=85), where the minimum number required was n=50+8m (66). The questionnaires and consent forms were filled out and then put in boxes marked "consent forms" and "questionnaires." The instructions indicated that participants were to fill out the form as honestly as possible, and assured the subject the survey would be anonymous. It was possible that some people may not have been able to or did not want to fill out the form.

One of the questionnaires was the Satisfaction With Life Scale (SWLS). Subjects 9 and 13 were dropped from the study because they did not give any SWLS data. One of the other questionnaires was the MAST. The MAST had 25 questions. Subject 17 left Question 6 blank. The average answer for this question was a yes, so this question was scored as a yes for this subject. Subject 24 left Question 14 blank; this was

scored as the average score for this question which was a yes. Subject 26 left Question 4 blank; this was scored as a yes, which was the average score for this question. Subject 33 answered both yes and no for Question 8; the average score was a yes, so it was scored as a yes. Subject 57 left Question 12 blank, and the average answer for this question was a no, so the answer to this question was scored as a no for this subject. Subject 66 answered Question 8 with both a yes and a no; this was scored with the average score which was a yes. Subject 69 left Question 8 blank; the average for this question was a yes, so this was scored as a yes. Subject 75 left Question 25 blank; this was scored as the average score, which was a no. Subject 77 answered both yes and no for Questions 4, 5, and 6. For Questions 4 and 6 the average was a yes, so these answers were scored as yes. The average answer for Question 5 was a no, so this subject was scored as a no for Question 5. Subject 81 left Questions 4 and 8 blank; the average answer for both of these was a yes, so they were both scored as yes.

The questionnaires included an added section for demographic data. Subjects 7 and 31 gave no demographic information and were not used for analysis involving demographic data. Subjects 16, 18, 20, and 66 left the ethnicity question on this questionnaire blank and were not used for analysis involving ethnicity. Subject 71 left academic year and major questions blank and was not used for analysis using year and major. Subject 72 left academic year, major, and ethnicity questions blank and was not used for calculations involving these parameters. Subject 75 left academic year and ethnicity blank and was not used for analysis involving academic year and ethnicity.

The subjects were arranged into a "Total Group," meaning all subjects, an "Alcoholic Group," meaning all that scored 6 or above on the MAST, and a

"Non-alcoholic" group, those who scored below 6 on the MAST. There were "Male" and "Female" groups, as well as "African-American," "Asian," "Hispanic," and "European" groups. There was an "Other Ethnicity Group" for those ethnicities that did not fit into the other ethnicity groups. The subjects were also arranged into "High Age" and "Low Age" groups. The median age was 20; the "Low Age" group included those subjects whose age was equal to or lower than 20 years of age. The "High Age" group included subjects over 20 years of age. The subjects were divided into "Low Academic Year" and "High Academic Year" groups. Those subjects whose academic year was equal to or below the median of 2 were put into the "Low Academic Year" group and those whose academic year was greater than 2 became members of the "High Academic Year" group.

Materials

The materials were 2 questionnaires. the MAST by M. Selzer with 25 questions, and the SWLS by E. Diener with 5 questions. Scales similar to satisfaction with life considered for this study include at least 18 scales by authorities such as Frasier (2010), Muller (2002), Sajatovic (2006), Diener (1985), Stuart (1988), Horvath (1989), Lysaker (2006), Fujita (2005), Frisch (1992), and Andrews & Whitney (1976).

The scales used in this study were chosen partly for their good validity and good reliability. There are dozens of scales available on everything from academic achievement to sexual disturbance (Groth & Marnat, 2003). The SWLS by Diener (1984) was chosen over many other scales. Among these are HRQL or Health Related Quality of Life (Frasier et al., 2010), the SATQ-98 Satisfaction Questionnaire (Muller, Schlosser, Kapp-Steen, Schanz, & Benkert, 2002), and the GAS, or Global Assessment Survey, with subscales in a Somatotherapy Index and a Side Effect Summary (Sajatovic,

Bauer, Kilbourne, Vertrees, & Willford, 2006). The SWLS is thought to be more universal (Diener et al., 1984).

Also available is the Structured Clinical Interview for DSM-IV (SCID), which is said to have good reliability for measuring quality of life (First, Spitzer, Gibbon et al., 1996). The DSM-IV is also useful in identifying alcoholism. The EuroQol is a survey of self-reported health-related quality of life and the Medical Outcome Study Short Form SF-36 has physical and mental health subscales (EuroQuol, 1990; Stewart, Hays, & Ware, 1988). The Patient Satisfaction Index is a self-reporting device that takes into account educational and sociocultural backgrounds (Nabatil, Shea, & McBride, 1998). Frisch, Cornell, and Villaneuva (1992) did an evaluation of the QOLI, or the Quality of Life Inventory. This scale was not used for the Relationship between Alcoholism and Satisfaction with Life because it is expensive, over $100.00. The scale was compared to The Global Scales of Life Satisfaction and Subjective Well-Being, the Overall Rating of Happiness, and the Index of Overall Life Satisfaction (Diener, 1984; Gurin, Veroff, & Field, 1960; Campbell, Converse, & Rodgers, 1976). Also compared were the Delighted-Terrible Scale, Fordyce's 11 Point Happiness Rating (1987), the SWLS and the Life Satisfaction Interview (Andrews & Witney, 1976; Diener, Emmons, Larson, & Griffin, 1985). The SWLS (Diener, 1984) was chosen over all of these. The Modified Global Assessment of Functioning was also available, as well as the Medication Satisfaction Questionnaire (Frisch et al., 1992). Fujita and Diener (2005) measured life satisfaction with only one question. It was "How happy are you at present with your life as a whole, on a scale from 1-10?" The Working Alliance Inventory is an instrument that evaluates the patient-provider relationship. Different domains of this test include

perceived acceptance of trust and confidence in the treating clinician (Horvath & Greenberg, 1989). These scales may be useful either in their entirety or for individual questions. These devices can be used for measuring variables in studies similar to examining the relationship between alcoholism and health satisfaction, quality of life, or satisfaction with life, because these scales are similar. Satisfaction with medical treatment may have something to do with satisfaction with life also.

A questionnaire to record demographic characteristics was added to the questionnaires. Cronbach's alpha for the MAST is .83 to .93 (Gibbs, 1983). The alpha coefficient for the SWLS is .83 (Pavot, Diener, Colvin, & Sandvick, 1991).

Results

The overall relationship between the MAST results, or "alcoholism," and SWLS results, or "satisfaction with life," was analyzed using correlation, regression, and t-tests. The sample was also divided into a non-alcoholic group and an alcoholic group based on participants' MAST scores. A score of 6 or above was considered alcoholic. For the whole sample, the correlation between the MAST scores and the SWLS scores was -.253 ($P=.01$). For the regression, the multiple R between the MAST and SWLS scores was .253 and this result was also significant at ($P=.021$). There is a negative relationship between alcoholism and satisfaction with life. For the alcoholic group, those who scored 6 or above on the MAST, the correlation between MAST scores and SWLS scores was higher, at -.631 ($P<.0005$). There is thus a higher negative relationship between alcoholism and satisfaction with life for alcoholics. For non-alcoholic subjects, the correlation between MAST scores and SWLS scores was -.037 ($P>.2$). There is no significant relationship between alcoholism and satisfaction with life for non-alcoholics.

The correlation between MAST scores and SWLS scores for the Low Age group was significant at r=-.43 (P<.005). The correlation between MAST and SWLS scores for the Low Academic Year group was also significant at r=-.42 (P<.01). Of the other groups, the Hispanic group had a significant correlation between MAST and SWLS scores at r=-.58 (P<.01). The Female group also had a significant correlation between these scores at r=-.31 (P<.025) (Moore, 2007).

Discussion

The results show a negative relationship between alcohol use and satisfaction with life. This relationship is more profound for alcoholics. Generally, based on literature (e.g., Enoch, 2011), unhealthy things like stress and dysfunctional families cause more alcoholism. The hypothesis assumed that part of high satisfaction with life is avoiding or controlling alcohol consumption. The results clearly suggest that alcoholism is associated with low satisfaction with life. It is likely that there are protective factors like good family interaction and positive life changes that mediate the relationship between alcoholism and life satisfaction.

Many parameters of satisfaction with life affected by alcoholism may exist. Grades, work, relationships, and fun may be affected by use or abuse of alcohol. If students can keep their grades up despite alcohol use, that part of their satisfaction of life will remain the same, independently of alcohol. If grades are negatively affected by alcohol, then satisfaction with life may be affected also. If alcohol impacts work or relationships, the amount of satisfaction with life as derived from work and relationships will be jeopardized by alcohol or alcoholism. The amount of fun someone has may influence their satisfaction with life. This study suggests that the amount of a person's

fun that is influenced by alcohol use impacts the person's satisfaction with life. The effect alcohol has on a person may wear off, and the fun they had will be gone also. Other things in life that influence satisfaction with life may be important and affected by alcohol.

A possible reason for the results of the Total Sample and especially the Low Academic Year and Low Age groups may be that the sample was young. The mean age was 19.67 years. The results may have been affected by immaturity. There may be more problems with alcohol earlier in life than later. Another possibility is that alcohol may mask problems. There may have been problems in the other groups where alcohol influences satisfaction with life, but these problems may have been masked by the numbing effects of alcohol. These problems may have been kept from influencing satisfaction with life scores, like anxiety, worry, anger or pain.

There is a negative relationship between satisfaction with life and alcoholism for the entire sample, but the relationship is more pronounced for the alcoholic group. A MAST score below 6 is considered non-alcoholic, but is still part of the correlation between alcoholism or alcohol use and satisfaction with life.

The non-alcoholic group did not show a significant correlation between alcoholism and life satisfaction. This is probably because alcohol is not an important part of a non-alcoholic's life. The things that affect an alcoholic's satisfaction with life don't affect the non-alcoholic. These things may include wanting to control drinking, relationships with other people, and later consequences of drinking, which were parts of the MAST. Stress in early childhood may be part of this correlation because stress is a negative feeling shown to contribute to alcoholism. Mediating factors such as family and

peer relationships, which have been shown to protect against alcoholism, may increase satisfaction with life (Enoch, 2011).

There are questions on the MAST about what others think of the subject's alcohol use. This may relate to communication. It is possible that the more alcoholic a person is, the less that person is able to communicate. The more a subject communicates and positively interacts with others, the higher their satisfaction with life. When a subject is in the alcoholic group, they are likely to have less positive communication (Korthuis et al., 2011). The more drinking behavior they exhibit, the more they are criticized, and the less positive interaction they will have. MAST scores may then negatively correlate with SWLS scores partly because of negative communication (Korthuis et al., 2011).

The significant correlation between MAST and SWLS scores may indicate a person losing control of alcohol use. There are questions on the MAST that deal with the beginnings of alcoholism. The sample is young, so questions about the beginnings of alcoholism are important. Blackouts, remorse, inability to stop, and trying to limit drinking may be characteristics of early alcoholism. This may have something to do with the endogenous opioid system which controls reward and pleasure mechanisms in the nervous system. It controls how we control ourselves to do good things for ourselves and get pleasure out of life, and satisfaction with life. Alcohol consumption leads this system to release dopamine, a neurotransmitter in the brain which is associated with pleasure. Alcohol tricks the subject into thinking they did something good for themselves when they did not. For someone still in control of their alcohol use, dynorphins are released in the brain which mediate the effects of alcohol, leaving the endogenous opioid system intact. For those losing control, the endogenous opioid system does not promote reward

for things that give satisfaction with life as it is should. It rewards alcohol consumption. This system then punishes the subject for not using alcohol, when the subject is in withdrawal. This leads to a cycle of intoxication and negative reinforcement that could take away satisfaction with life (Gianoulakis, 2001).

The significant correlation between MAST and SWLS scores may involve trajectories in the progression of alcoholism. There was a significant correlation for the Low Age group. The sample was young. The trajectory that starts early in life is the chronic binge drinker trajectory. The trajectories that start slower are the remitting, fling, and late onset trajectories. The chronic trajectory most likely showed the lowest SWLS scores and contributed the most to the correlation. The chronic or binge drinker may be often trying to get rid of reality as soon as possible. The subject may be taking advantage of newfound freedom. The slower-starting trajectory subjects may be using alcohol to enhance reality rather than trying to obliterate it. For older subjects, MAST and SWLS scores and the trajectories have been in place for some time. The subject may have a mediocre relationship with reality, and this may also contribute to the relationship between MAST and SWLS scores, especially in older members of the sample (Sher et al., 2004).

It is interesting that the Female group had a significant correlation between MAST and SWLS scores. The Female group also had a higher mean MAST score than the Male group (see Table 1). Perhaps it is masculine to drink and not let it bother you, or to carry on as if nothing is wrong. Maybe this is true of males. Perhaps it is more feminine to care about yourself more and to consider whether alcohol is harming you.

Females may do this more than males. Females may be more honest when answering questions about alcohol use.

The Hispanic group showed a significant correlation between MAST and SWLS scores. Of all the ethnicities represented in this sample, the Hispanic group produced the highest mean MAST score. This may be due to cultural morals. These morals exist for all groups, but maybe more for Hispanics, at least on this subject. For some ethnicities, alcohol and satisfaction with life may be separate. People might not want to think, "Is alcohol making me happy or unhappy?" Some groups might think, "Alcohol has nothing to do with happiness or satisfaction with life." A group like the Hispanic group might think, "If I can control my alcohol input, can I be happy or satisfied with life?"

For African-Americans in the sample, both MAST and SWLS mean scores were lower and these parameters offset each other. For the Other Ethnicity group, the mean MAST score was lower and the mean SWLS score was higher. Perhaps these cultures are more knowledgeable or aware of the dangers of alcohol. Their results are part of the negative relationship between alcoholism and satisfaction with life. The European group had a slightly lower mean MAST score than the others, but they had a mean SWLS score similar to most groups. The European culture may drink less or may report drinking less.

For anyone who has ever had a drink, alcohol gives you a temporary feeling that takes away your cares for a little while. Some may drink because of failures in other aspects of life. These failures may be indicated by less satisfaction with life and may become worse because of alcohol. Sometimes alcohol use can be for fun, but the fun can go wrong. It is possible that accidents and other mishaps caused by alcohol can lower satisfaction with life.

Alcohol may cause rude behavior that destroys friendships and other relationships. It may cause bad or strained relationships between family members. Alcohol abuse may cause selfishness that ruins someone's place in society, causing lower satisfaction with life. Someone may have to worry about themselves so much they can't think of other people.

Alcohol may affect driving and job performance. An accident, arrest, or poverty can cause lower satisfaction with life. So can immaturity, and immaturity can cause alcoholism. In an alcoholic group, alcohol plays more of a role in influencing satisfaction with life.

A possible improvement to this study may be a longitudinal study to compare MAST scores and SWLS scores for a sample both in the present and into the future. A similar study including a sample that compares MAST and SWLS scores representing all age groups, not just MSU students, also may show interesting results. The aged, and aged drinkers, have more life experience and it would be interesting to see if there is a correlation between MAST scores and SWLS scores for the aged.

A longitudinal study of the relationship between alcoholism and satisfaction with life might involve a set point for life satisfaction. It has been shown that a consistent level of life satisfaction throughout someone's life is correlated with a higher level of satisfaction with life. It would be interesting to see if this applies to alcohol use and those with alcoholism. Other groups might include different professions, income levels, GPAs, and people of different countries. Some of these groups may show a negative relationship between MAST scores and SWLS scores and some may not. Other scales

may be used instead, like MAST vs. health problems, tobacco use vs. SWLS, and gambling vs. SWLS. There might be interesting relationships with these scales also.

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Table 1.

Characteristics and Means of Groups of Subjects in Study

Group	N	%	Mean MAST	Mean SWLS
Total	83	100	5.43	25.41
Alcoholic	29	35	10.59	25.72
Non-Alcoholic	54	65	2.66	25.24
Male	34	41	4.76	25.12
Female	49	59	5.90	25.61
African-American	9	12.5	3.89	22.67
Asian	9	12.5	5.89	23.44
Hispanic	16	22.2	8.81	25.75
European	21	29.2	4.66	25.71
Other Ethnicity	17	23.6	3.71	26.41
Low Age	44	54.3	5.87	25.61
High Age	37	45.7	5.51	25.24
Low Academic Year	43	55.1	5.19	25.19
High Academic Year	35	44.9	5.71	25.71

Table 2.

Means and Standard Deviations of Groups of Subjects in Study

Group	MAST mean	MAST s.d.	SWLS mean	SWLS s.d.
Total	5.43	5.51	25.41	6.53
Alcoholic	10.59	6.56	25.72	6.91
Non-Alcoholic	2.66	1.41	25.24	6.38
Male	4.76	5.18	25.12	6.91
Female	5.90	5.74	25.61	6.32
African-American	3.89	2.26	22.67	7.71
Asian	5.89	7.3	23.44	7.21
Hispanic	8.81	9.12	25.75	7.66
European	4.66	3.04	25.71	6.38
Other Ethnicity	3.71	2.69	26.41	6.54
Low Age	5.87	5.38	25.61	5.95
High Age	5.51	5.78	25.24	7.26
Low Academic Year	5.19	5.38	25.19	5.91
High Academic Year	5.71	4.91	25.71	7.35

Table 3.

Correlations between MAST and SWLS for Groups of Subjects in Study

Group	N	%	r	sig (*)
Total	83	100	-.253	P = .01*
Alcoholic	29	35	-.631	P < .0005*
Non-Alcoholic	54	65	-.037	P > .20
Male	34	41	-.18	P > .20
Female	49	59	-.31	P < .025*
African-American	9	12.5	-.18	P > .20
Asian	9	12.5	-.44	P > .10
Hispanic	16	22.2	-.58	P < .01*
European	21	29.2	.27	P > .10
Other Ethnicity	17	23.6	-.13	P > .20
Low Age	44	54.3	-.43	P < .005*
High Age	37	45.7	-.12	P > .20
Low Academic Year	43	55.1	-.42	P < .01*
High Academic Year	35	44.9	.077	P > .20

Figure 1.

MAST vs. SWLS Line Fit Plot for Total Sample

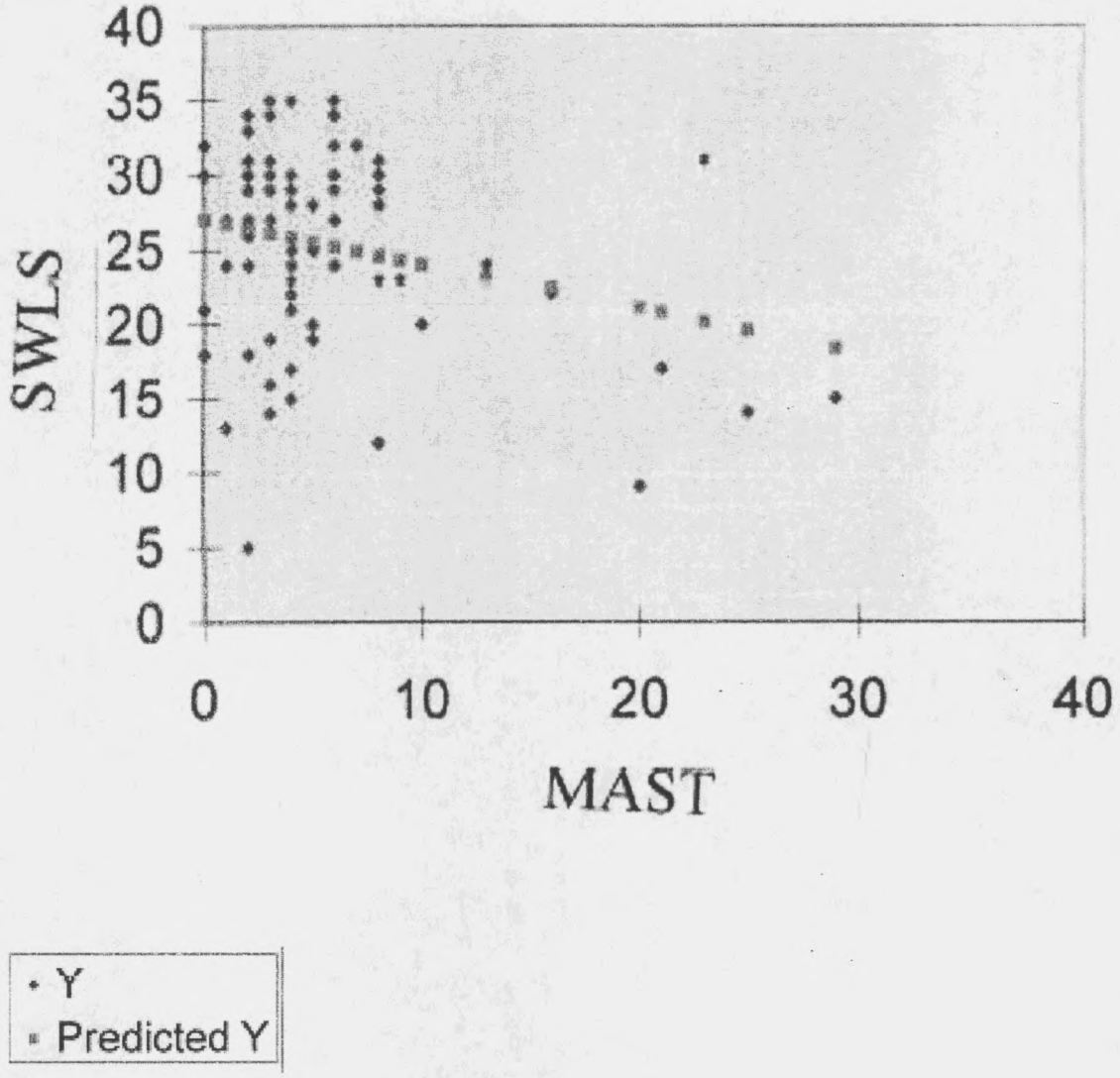

Figure 2.

MAST vs. SWLS Line Fit Plot for Alcoholic Group of Sample