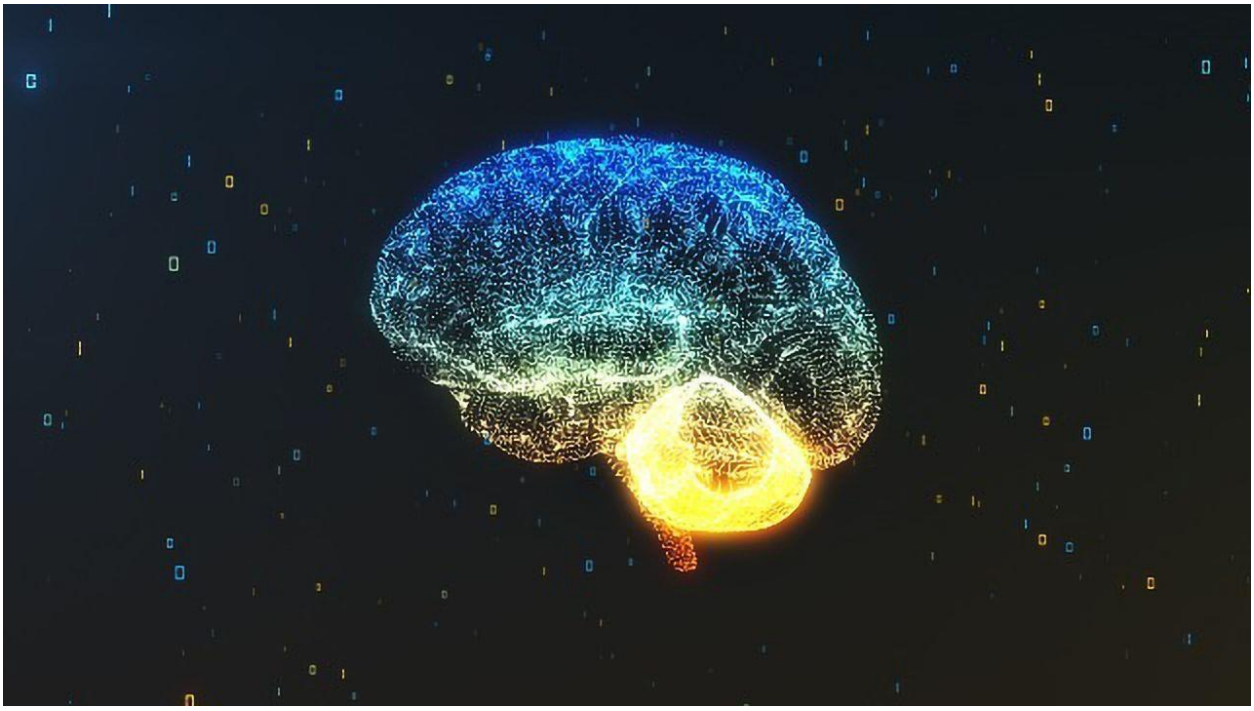

The formation of attitudes towards the usage of psychedelics in therapeutic environments

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ABSTRACT

Lately, new treatment possibilities involving psychedelics for mental disorders such as PTSD, depression, and anxiety have been researched with positive results. However, The general public might still be reluctant towards the general topic due to the ban of psychedelics in the past. Therefore, this study aimed to determine the factors forming attitudes about the usage of psychedelics in therapeutic environments. It was hypothesised that knowledge influences attitude towards recreational use of psychedelics and that this, in turn, influences the attitude towards psychedelic use in therapy. Both of these relationships can be influenced by an individual's psychological distance and morality. A questionnaire was prepared that later collected 208 valid responses. The results showed that knowledge did influence Attitude towards recreational use of psychedelics. Moreover, Morality and Psychological distance had a direct influence on Attitude towards recreational use of psychedelics as well as Attitude towards psychedelics use in therapy. This shows that, the more Knowledge an individual acquires, the more the attitude towards recreational psychedelic use becomes positive and therefore, the Attitude towards psychedelic use in therapy becomes increasingly positive as well. The motivation of this paper was to foster a discussion to start educating patients on different treatment possibilities in order to make an informed decision about their future treatments options.

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Introduction

Since the Covid-19 pandemic, countless health workers have been fighting for individuals' survival. This led to an increase in mental health problems among these health workers, for instance translating into rising numbers of post-traumatic stress disorder (PTSD) (Bryant-Genevier et al.,2021). Some of many symptoms of PTSD are anxiety attacks, sleep disturbances, negative emotions towards oneself, and concentration difficulties (Friedman, Resick, Bryant, & Brewin, 2011), while medication for PTSD has been proven to have limited effect (Hoskins et al, 2015; Cipriani et al., 2018). However, recent studies have shown a new treatment possibility with psychedelics (Feder et al, 2014; Feduccia & Mithoefer, 2018; Hindocha, Cousijn, Rall, Bloomfield, 2019; Krediet et al, 2020; Mithoefer et al, 2019).

Even though psychedelics have been proven to be helpful in therapeutic environments, the general public still seems to have a predominantly negative opinion toward psychedelics (Belackova et al., 2011). After being banned in 1966, psychedelics have been demonised as addictive, and a cause of insanity (Belouin & Henningfield, 2018). Reports followed implying that they specifically cause chromosome damage (Cohen et al.1967; Dishotsky et al.1971). In addition to that, it should be noted that stories about injuries and death of people using (in this case) LSD, turn out to be urban legends (Siff, 2008).

In order to explain why psychedelics can actively help in therapy compared to other drugs, it is important to discern between psychedelics (also called hallucinogens) and other types of drugs. Drugs, such as alcohol, are called CNS (central nervous system) depressants which are slowing down the activity of the brain and body. In contrast, CNS stimulants, for example, cocaine and amphetamines, are heightening heart rate, blood pressure and can over-stimulate the body. Dissociative anaesthetics inhibit pain (e.g., ketamine, PCP), while narcotic analgesics

relieve pain and induce euphoria and mood changes (e.g., morphine, heroin). Lastly, inhalants, such as hair spray or paint thinners, are drugs having mind-altering effects on the user.

There are several types of drugs being classified as psychedelics. Those are Lysergic acid diethylamide (LSD), dimethyltryptamine (DMT), mescaline, and psilocybin. These substances function as agonists of the 5-HT2A serotonin receptor (Carhart-Harris et al 2012) and by doing so, are disrupting neural mechanisms that usually inhibit cognition, perception, and emotion (Swanson, 2018). As a result, the brain is in an entropic state (Carhart-Harris, 2018) where essentially a reduction of network connectivity takes place and typically unrelated brain networks show increased activity (Carhart-Harris et al. 2016). This means that psychedelics act as neuromodulators influencing the activation of other neurotransmitter systems. The result is a change of perception and cognition, which is represented in common media as e.g., visual hallucinations (Carhart-Harris et al. 2016). Further, users reported a sense of becoming 'one with everything' (Tagliazucchi et al 2016).

Breaking psychedelics down to their core, they affect people by antagonising their serotonin levels causing an increase in the feeling of well-being and confidence. Hence, it decreases the fear response to anxiety-provoking stimuli, including traumatic memories (Krediet et al, 2020). Serotonin can also be directly linked to the treatment of addiction, as serotonin levels are established to be significantly reduced in patients struggling with addictive disorders (Winkelman, 2014). Additionally, psychedelics are shown to be a significant and sustained antidepressant and as mentioned above, have an anxiety-reducing effect. Therefore, they can be used in therapy for depression next to anxiety disorders (Muttoni, Ardissino, & John; 2019). Krebs and Johansen (2013) found that lifetime exposure to psychedelics is associated with a

lower rate of mental health issues. Moreover, users with a history of childhood depression have displayed a lower likelihood of past-year suicidal thoughts and plans (Johanson & Krebs, 2015).

The war on drugs being widespread in mass media in the past 50 years may have fuelled a negative opinion and lead to a discard of reporting scientific advances. This could have resulted in low awareness and a negative attitude towards psychedelics in the general public (Feher, 2018). As described above, psychedelics show increasing positive results in therapeutic environments. Despite that, the general public seems to show reluctance towards psychedelics. This present study is therefore focussing on how those attitudes are formed. Accordingly, the research question is '*How are attitudes about the usage of psychedelics in therapeutic environments formed?*'.

Theoretical framework

In the following section, it will be discussed how attitudes can form through knowledge acquisition and what role psychological distance and morality play in this relationship.

Knowledge

Zagzebski (2017) defined knowledge as '[...] a belief arising out of acts of intellectual virtue', meaning that knowledge can be derived from an accumulation of information. Knowledge can be broken down into objective knowledge and subjective knowledge (Han, 2019). Objective knowledge is defined as 'how much an individual knows' about (here) psychedelics while subjective knowledge describes 'how much an individual thinks they know about psychedelics' (Han, 2019). Subjective knowledge is also involved in memory and problem solving (Raju, 1995). This means that subjective knowledge shapes an individual's formation of their personal opinion. Opinion formation is initiated with the individuals' exposure to relevant experiences

and information, and the process of transforming this information into a judgement is part of attitude formation. Hence, the majority of individual opinions is shaping the opinion held by the general public (Rosenberg, 2015). This process is important, since through acquiring knowledge, an attitude can be formed (Eagly & Chaiken, 1993).

Attitude

An attitude is defined as positive, negative, or mixed reaction to a person, object or idea (Kassin et al., 2013). According to Eagly and Chaiken (1993) attitudes are formed by three components: the affective component, the behavioural component, and the cognitive component. The affective component is defined by attitudes that can be formed through values (e.g., morals), semantic generalisations (e.g., stereotypes), and mere exposure. The behavioural component emphasises that in the absence of a pre-existing attitude, an individual's actions form their attitude (Eagly & Chaiken, 1993). The self-perception theory suggests that an individual decides on an attitude based on their behaviour (Eagly & Chaiken, 1993). Lastly, the cognitive component denotes that an individual is forming an attitude based on active information processing (Eagly & Chaiken, 1993).

According to Vogel and Wänke (2016), in order to identify a situation or an environment as good or bad, friendly or hostile, individuals may rely on an attitude they formed based on past experiences (Vogel & Wänke, 2016). Therefore, attitudes can serve as a simple structure for organising a complex environment, effectively being a cognitive schemata (Vogel & Wänke, 2016). In case of lack of opportunity or motivation, the individual can process information relying on the overall attitude towards a certain object or situation (Sanbonmatsu & Fazio, 1990).

This means that attitude may not only influence behaviour but also further information processing and as a result further attitude formation.

As included in the aforementioned paragraph, knowledge and information processing is a crucial factor in attitude formation. In the following, the step of information processing and how that influences attitude formation is explained in greater detail.

Based on the Heuristic Systematic Model (HSM), it is assumed that individuals base their decisions and opinions on knowledge structures, so-called heuristics, that were learned and stored in memory (e.g., 'experts' statements can be trusted', 'consensus opinions are correct') in order to lower cognitive demands for day-to-day decisions (Chen & Chaiken, 1999). In contrast, systematic processing is engaged when judgement-relevant information is abundant and the individual needs to reach a more heightened and accurate judgement. For the purpose of determining which process to use - heuristic or systematic- individuals identify the balance between minimising cognitive effort and satisfying their current motivational concerns (Chen & Chaiken, 1999).

Consequently, when the motivation to learn more about a topic is low, or an individual's cognitive capacity is limited, their attitudes will be based on the heuristic cue information best suited to achieve their accuracy goals (Chen & Chaiken, 1999). At the same time, if motivation is higher, judgement-relevant information is abundant and the individual might engage in systematic forms of processing to reach more accurate judgement. However, if an individual is highly motivated to defend their judgement (defence motivated perceivers), their aim is to preserve their self-concept as well as their associated world views (e.g., individuals morals). Hence, they process information selectively with the intention of satisfying their goal to defend their opinion. Similar to confirmation bias (Nickerson, 1998), on the one hand, congenial

judgement explanations are likely to be enforced, while on the other hand uncongenial heuristics might be disregarded or entirely ignored (Chen & Chaiken, 1999).

Based on the above paragraph, in the context of psychedelics, people's thought processes might be intended to justify their pre-existing attitudes and beliefs about psychedelics. Therefore, information aligning with these thought processes (congruent information) is more favourably judged than incongruent information. In the meantime, individuals with low motivation to gather more knowledge on psychedelics, base their judgments on heuristics previously attained and therefore do not demand further information.

In this paper, the question is how the attitude towards psychedelic use in therapy is formed. Considering that psychedelic use in therapy is relatively new, the attitude towards recreational use of psychedelics was previously formed as this has been part of history. Based on the information above, it can be hypothesised that the attitude towards psychedelic use in therapy may be influenced by the attitude towards recreational psychedelic use.

Stereotypes and psychological distance

As already discussed above, part of attitude formation is the affective component. The affective component includes attitude formation via semantic generalisations (e.g., stereotypes) and mere exposure (Eagly & Chaiken, 1993).

A stereotype is defined as a belief about a group or category of people (Operanio & Fiske, 2001). According to Bodenhausen, a stereotype can be viewed as a judgmental heuristic (1990). Stereotypes of drug users seem to depend on the specific kind of drugs. The stereotype of, for example, opioid users is depicted as an African American lying around, waiting for his next fix (Zakos, 2009), while 90% of heroin users are Caucasians living in suburban areas

(Cicero, Ellis, Surratt, & Kurtz, 2014). Psychedelics, however, are highly affiliated with the counterculture (Wesson, 2011). Counterculture is defined as a subculture that actively deviates from the dominant culture (Yinger, 1984). Detaching themselves from the baby boomer consumerism, artists proclaimed the message of separateness and rebellion (DeRogatis, 2003). Hippies further relinquished mainstream religion and turned to more spiritual and personal experiences often based on indigenous and folk beliefs, including hedonism (Miller, 1991). In conservative circles, however, hippies were stereotyped as long-haired and indolent loafers, not contributing to society (Alexander, 2009).

Consequently, non-users may perceive active users as ‘others’, meaning they are considered separate from and as not conforming to societal norms and (moral) beliefs. The classification of users as ‘others’, and the resulting generalisation of others due to outgroup homogeneity, creates psychological distance (Liberman, Trope, & Stephan, 2007). It is mentioned above that mere exposure is part of the affective component of attitude formation. Meaning the more exposed an individual is to a specific topic (less psychologically distant), the better the knowledge and attitude. Psychological distance is defined as a cognitive separation between an instance - in this case, the use of psychedelics - and the individual (Liberman, Trope, & Stephan, 2007).

Trope and Liberman (2003) determine four interrelated dimensions of psychological distance: spatial, uncertainty/hypothetical, social, and temporal. Spatial distance describes the geographical distance between the self and an event, uncertainty/hypothetical psychological distance applies to the likelihood of an event happening. The dimension of social distance explains the perceived separation between the self and another individual experiencing the effects of (here) psychedelics. This means if the individual is not exposed to psychedelics

through their social surroundings, the individual will remain psychologically distant from the subject matter. According to Trope and Liberman (2003), the individual, therefore, has no need or motivation to find out further information regarding the topic. Temporal psychological distance refers to the distance in time. In the case of psychedelics, the counterculture was a predominant event in the past. If an individual was born after the 60s, they might have no relation to the counterculture and its uses of psychedelics.

According to Liberman et al (2007, p.354), individuals are using 'themselves as the frame of reference to judge and evaluate external objects, events, and actions' in their subjective environment. This means if an individual is not exposed to a certain topic (here, the use of psychedelics) it is perceived as unlikely to occur in their periphery. Thus, the individual remains distant and is not motivated to further investigate the topic itself. This aligns with the heuristic systematic processing model, where, due to psychological distance, motivation is low to gather more information. Hence, previously learned heuristics are set into place to decrease the cognitive demand on the individual and, hence, less effort is required. Hence, learned opinions are unlikely to change. This means that psychological distance can decrease the strength of the relationship between knowledge and attitude towards recreational psychedelic use, because of said low motivation to further investigate the topic itself. Therefore, previously learned heuristics might be used. Further, if the psychological distance towards therapeutic use of psychedelics is high, it can reduce the strength of the relationship between attitude towards recreational psychedelic use and attitude towards psychedelic use in a therapeutic environment.

Morality

As discussed above, attitudes are not only based on information but also on an individuals' associated world views and moral beliefs (Eagly & Chaiken, 1993). Drug users may be perceived as separate and not conforming to societal norms, directly contradicting an individual's moral beliefs (Alexander, 2009). It is therefore important to include morality when analysing underlying reasons for negative opinions towards psychedelics. According to the moral foundations theory, there are five moral foundations: harm/care (nurture and protect others), fairness/reciprocity (justice according to shared rules), ingroup/loyalty (identifying with/supporting your group, family, nation), authority/respect (adherence of tradition and legitimate authority), and purity/sanctity (aversion of repulsive foods, actions) (Graham et al, 2013). These foundations maintain the safety of the community and the aversion to harm. This leads to condemnation of cruelty and, in turn, to the promotion of the protection of individuals. Therefore, it encourages cooperation and discourages free riding, combating unfair behaviour with guilt and moralistic aggression (Graham et al, 2013). Since hippies are stereotyped as not contributing to society, it could be a direct contrast to the previously mentioned moral foundations. (Alexander, 2009)

In the context of drug use and psychedelics, moral beliefs may involve that individuals are harming their health and personalities through drug usage, thus making themselves less good or useful family members, parents, friends, or employees. Therefore, drug users could be thought to directly harm their surroundings and believed to potentially require increased health care, which in turn increases the costs on society in general. In addition to that, they are perceived as more violent (Zakos, 2009), thus harming their direct environment and do not adhere to legitimate authority when under the influence of drugs.

In light of the geographical location of this thesis (Netherlands and Germany), the belief in Calvinism should be considered. The Calvinistic view considers abstinence as the highest ideal, meaning 'if a drug makes you feel good, it must be morally bad.' (Klerman, 1972). It distrusts drugs used for non-therapeutic purposes as well as therapeutic purposes as it claims, 'the highest road to salvation is through insight and self-determination'. According to the Calvinistic view, conversational therapy by itself is therefore acceptable but, using (psychotropic) drugs in this context is morally wrong as it facilitates dependency (Klerman, 1972). This approach is directly conflicting with psychological hedonism, a theory often followed by individuals of the counterculture. It is defined as happiness is the goal of all action, therefore directing one's life into achieving pleasure or happiness (Young, 1936). Abstinence, like it is carried out in Calvinism, would therefore not be practised in hedonistic cultures like the counterculture. Therefore, drug use, or in this case psychedelics, could thus be perceived as morally wrong in this geographical area, inhibiting further research on using psychedelics in a therapeutic setting. This could indicate that knowledge, as a results of high morality, would be low or based on heuristics, directly influencing an individuals' attitude.

Based on the HSM by Chen and Chaiken (1999), if an individual scores high in morality, their motivation to search for information may be low. In addition to that, Kerby (1957) theorised that morals can be biased in favour of the individual. This can effectively have the potential to undermine the pursuit of knowledge (Stammers, 2019). This means that their knowledge about psychedelics and its recreational use thus may be low. Therefore, morality can act as a deterrent to obtain more knowledge. In addition to that, if an individual scores high in morality, the motivation can also be high to justify pre-existing beliefs and attitudes. This means

that their knowledge intake would be biased. Thus, morality can weaken the relationship between knowledge and attitude.

Similarly, if an individual's attitude towards general use of psychedelics is positive but scores high in morality, it can be assumed that the strength of the relationship between Attitude towards recreational psychedelic use and Attitude towards psychedelic use in a therapeutic environment reduces. Further, morals can be biased in favour of the individual (Kerby, 1957) and based on Stammer (2019), bias can also shape our thinking and therefore our attitude. This means that, the motivation to broaden the Attitude towards psychedelic use in a therapeutic environment might be low due to a high morality score.

Hypothesis:

H1: Increases in Knowledge corresponds to a more positive Attitude towards psychedelic use (Attitude (recreational)).

H2: Morality moderates the relationship between knowledge and Attitude (recreational), such that as morality increases, the strength of the positive relationship between Knowledge and Attitude (recreational) reduces

H3: Psychological Distance (recreational) moderates the relationship between Knowledge and Attitude (recreational), such as Psychological distance increases, the strength of the positive relationship between Knowledge and Attitude (recreational) reduces

H4: Increases in a positive Attitude (recreational) corresponds to a more positive Attitude towards psychedelic use in therapy (Attitude (therapy)).

H5: Morality (therapy) moderates the relationship between Attitude (recreational) and Attitude (therapy), such as Morality (therapy) increases, the strength of the positive relationship between Attitude (recreational) and Attitude (therapy) reduces.

H6: Psychological distance (therapy) moderates the relationship between Attitude (recreational) and Attitude (therapy), such as Psychological distance (therapy) increases, the strength of the positive relationship between Attitude (recreational) and Attitude (therapy) reduces.

Figure 1

Model 1

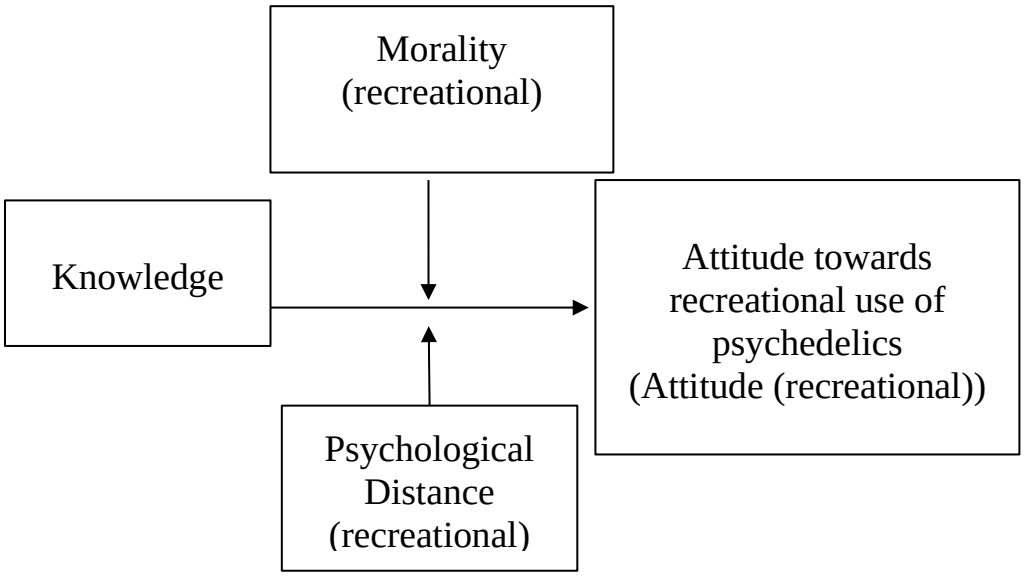
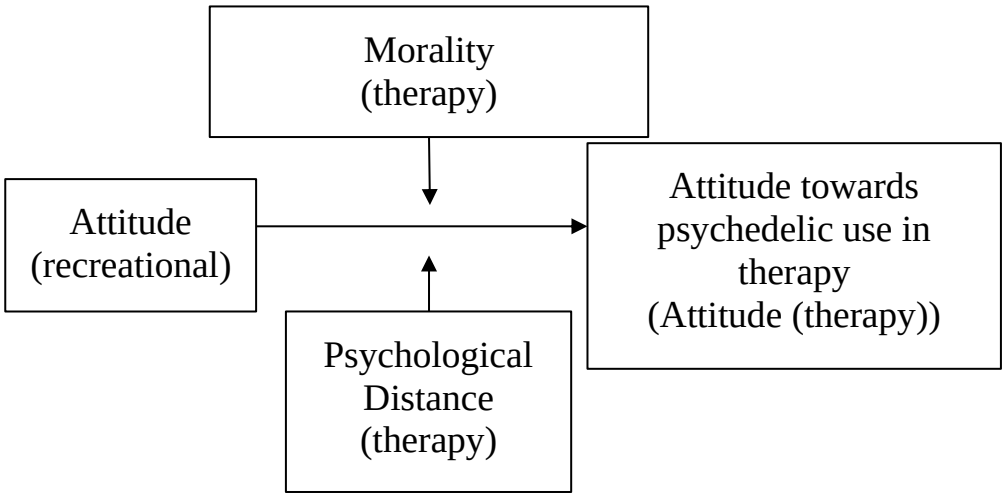


Figure 2 ***Model 2***



Methods Main study

Study design

To study the relationships between Knowledge, Attitude (recreational), and Attitude (therapy) with Morality and Psychological distance being the moderator, an online survey study is created. In the first model, Knowledge is the independent variable, while Attitude (recreational) is the dependent variable. Here, Morality (recreational) and Psychological distance (recreational) are the moderation variables. In the second model, Attitude (recreational) is the independent variable affecting the dependent variable Attitude (therapy). Also, Morality (therapy) and Psychological distance (therapy) are the moderators.

Participants

A total of 348 participants were recruited by convenience sampling in the time frame of 21. December 2021 until 18. January 2022. Participants were actively recruited via Sona Systems or Instagram on a voluntary basis. After accepting the consent form, participants filled out an online survey via Qualtrics. All data was omitted when participants did not complete the study resulting in a total N = 208, N = 140 participants did not complete the questionnaire. After deletion, ages ranged between 18-66 (M = 25, Median = 32). The majority of participants were 19 (11.5%) with a spike around 21, 22 and 25. Further, 153 participants were female (73.6%) , 48 indicated male (23.1%), 5 participants preferred not to say (2.4%), 1 participants identified as non-binary (0.5%) and 1 participant missed to give an answer. However, as no other questions missed any data, the participants' data was included in the study.

Table 1

Demographics of Study Sample

		Percentage	Total N
Nationalities			
	% German	46.6	97
	% Dutch	16.8	35
	% Indians	13.0	27
	% Other	23.1	48
Level of Education			
	% High School	37	77
	% Bachelor's degree	38.5	80
	% Master's degree	20.7	43
	% PhD	1.4	4
	% Other	1.9	4
Political Orientation			
	% Progressive	48.1	100
	% Neutral	47.1	98
	% Conservative	4.3	9

Procedure

Participants started by reading the consent form where they were informed that, by clicking forward, consent was given. After that, they were asked 75 questions in total. The questionnaire was divided into three parts, the first measuring the participants' familiarity with psychedelics, the second measuring the general attitude towards psychedelics, and the third measuring the attitude towards psychedelic use in therapy. Before the start of parts two and

three, they were informed about psychedelics, their classification and effects, and psychedelic use in therapy. The average survey completion time was 15 minutes.

Measures

The questionnaire consisted of 12 scales with 75 questions including the demographic questions. The first scale was *personal experience* consisting of the statement 'I am familiar with psychedelics' on which participants could answer yes or no. The next scale was called *source of information* consisting of three questions asking about the source of the participants' knowledge about psychedelics (answer key: friends, media, or scientific research) and if they had taken psychedelics themselves (yes/no answer).

The *attitude (recreational)* and *attitude (therapy)* scales were both constructed the same way. The participants would have to indicate how much they agree to seven statements with a 5-point Likert scale (One being the lowest and five being the highest). An example statement for *attitude (recreational)* was 'Psychedelics are bad, beneficial, important, dangerous, harmless, useful, or therapeutic'. The statements for *attitude (therapy)* where 'Psychedelics use in a therapeutic environment are bad, beneficial, important, dangerous, harmless, or useful.'. In both, the statements bad and dangerous had to be recoded (see appendix D).

The *knowledge* scale included 19 questions that could be answered with a 5-point Likert scale (1 = strongly agree; 5 = strongly disagree). Items 13 - 18 measured subjective knowledge and derived from Flynn, and Goldsmith, (1999) (e.g., 13. I know pretty much about psychedelics.). Heuristic knowledge was measured by Items 19 - 22 (Trumbo, 2002; Kim, & Paek, 2009) (e.g., Item 24 'On the issue of psychedelic use, I am willing to place my trust in the experts.') The questions 23 and 24 were derived from the questionnaire created by Chou, Chen,

& Lo (2021) ‘I use simple methods to judge whether the information about psychedelics is credible.’ and measured heuristic knowledge as well. Further, Trumbo (2002) created questions measuring systematic knowledge which were included in the questions 25- 27 (Item 26 ‘When I encounter information about psychedelics, I am likely to stop and carefully think about it.’). This was the same case for question item 28 ‘Before I make my judgement, I spent some time thinking about the information about psychedelics' (Chou, Chen, & Lo,2021).

The scale *subcultures* consisted of 10 questions, of which Item 30 is an open question (‘In which groups in society do you think using psychedelics is especially popular?’). The nine questions had a 5-point Likert scale answer key (strongly agree - strongly disagree) (e.g., item 35. ‘The use of psychedelics is more prominent in baby boomers compared to the general population.’).

The next scale is called *psychological distance* and consists of 5 questions. Item 29 is an Inclusion of self in others - scale, created by Aron, Aron and Smollan (1992). This scale had 7-point Likert scale options which were later calculated into a 5-point Likert scale. Items 40- 44 were based on the questionnaire by Spence, Poortinga, & Pidgeon (2012). However, Item 44 (‘The use of psychedelics is not affecting my social surrounding.’) had to be deleted in order to increase the overall Cronbach's alpha.

The *Morality* scale consists of 17 questions, 2 questions had to be reverse coded (item 68, 74) and items 54, 55, 56, 58, 60 had to be deleted to increase the scale’s Cronbach's alpha. Items 48 and 61 (‘When the government makes laws, it makes it true that everyone is treated fairly.’) derived from Graham et al., (2011). Additionally, Item 53 and 49 was obtained from the questionnaire created by Silver (2020) (Item 49 ‘People who are lazy or irresponsible should suffer the consequences’).

The scale *Knowledgeability* (*therapy*) was first included in the questionnaire, however, had to be deleted since the variable was not included in the theorised model. The *Psychological distance (therapy)* consists of Item 74 'The use of psychedelics will impact how therapy is conducted in the future.'.

Lastly, the demographic scale included 5 questions (82 - 86) asking the participants' age, gender, nationality, education, and political orientation.

Table 2

Table Scales Cronbach's Alpha

Scale	Cronbachs' Alpha	N of Items
Attitude	.89	7
Knowledge	.83	19
Psychological distance (recreational)	.65	4
Morality (recreational)	.75	12
Morality (therapy)	.65	3
Psychological distance (therapy)	-	1
Attitude (therapy)	.86	7

Data analysis

Before publishing the questionnaire, a preparatory interview study was conducted to inquire if questions need to be added. Through typical- case sampling, five participants were found for the study. The sample consisted of three male and two female participants with the age range of 24 - 56. Each participants' ethnicity was Caucasian. For the interview, a topic guide (see appendix A) was developed. The interviews were conducted either in person or online and were a semi-structured interview for interactive, flexible in-depth data collection. Prior to the interview, the participants were given consent forms to sign. The interviews took around 30-45 minutes each.

This preparatory study was a single blind study to account for biases such as social desirability (Northdrup, 1997). After the end of the interview, each participant was informed of the purpose of the study. The answers were audio-recorded and transcribed into words. Statements made by participants were analysed into open codes in order to draw connections between them (axial codes) (see Appendix A). These axial codes were then compared to the questions of the survey. After the analysis, a question item regarding subculture was added. Question 38 ‘The use of psychedelics is more prominent among conspiracists compared to the general population.’ was added, due to the mentioning of conspiracy theorists in connection with psychedelics. Further, question 58 was added as comments regarding the intention of recreational psychedelic use were made (‘People are taking psychedelics to escape the mundaneness of their daily life.’).

A pilot test was conducted in order to control for wording mistakes and ambiguities. This resulted that the question number 56 ‘users get more than they deserve’ was taken out based on the feedback that this question is too ambiguous. In statistical analysis of the administered questionnaire, data was omitted when participants did not complete the study. Demographics and frequencies for sample indications were calculated. Scales were recoded, and Cronbach’s Alpha was used to assess the reliability of each scale. Assumptions for regression analysis have been verified via homoscedasticity analysis and the absence of multicollinearity. Also, to assess the skewness of distribution, the P-P Plot was used. In order to test the hypotheses, PROCESS analyses were performed.

Results main study

Correlations

As shown in Table 3, *general attitude towards psychedelics (attitude (recreational))* shows a negative correlation with *knowledge* (r(207)= -.62) *psychological distance* (r(207)= -.59), and *taken psychedelics themselves* (r(207)= -.57) at significance of $p < .01$. This means that, the more knowledgeable the participant, the more positive their attitude towards psychedelics. The lower the psychological distance, the better the attitude towards psychedelics. Therefore, a negative correlation will indicate that the attitude is more positive. These correlations fit the expectations.

The analysis also shows positive correlations with *knowledge* and *Psychological distance (recreational)* (r(207)= .52), *familiarity with psychedelics* (r(207)= .53), and *taken psychedelics themselves* (r(207)= .62) at significance of $p < .01$. That means, the more knowledgeable the participant, the lower the psychological distance. Further, the participants are also more familiar with the topic, and they tend to have taken psychedelics themselves.

Attitude (recreational) correlates highly positively with *Attitude (therapy)* (r(207)= .71) , meaning that the more positive one's attitude towards psychedelics is, the more positive the attitude towards psychedelics in the therapeutic environment.

Taken psychedelics themselves correlates negatively with *Attitude (therapy)* (r(207)= -.37), which indicates that if a participant has taken psychedelics, they have a more positive attitude towards psychedelics in a therapeutic setting.

These correlations fit the assumptions made in the theoretical framework.

Table 3

Descriptives and Pearson's correlation coefficients (N= 208)

		M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	Attitude (recreational)	2.85	0.90															
2.	Knowledge	2.74	0.55	-.62**														
3.	Psychological distance (recreational)	2.97	0.72	-.59**	.52**													
4.	Morality (recreational)	3.57	0.59	.73**	-.48**	-.52**												
5.	Attitude (therapy)	3.60	0.71	.66**	-.41**	-.43**	.61**											
6.	Psychological Distance (Therapy)	8.52	1.16	.31**	-.24**	-.21**	.29**	.32**										
7.	Morality (Therapy)	1.75	0.71	-.47**	.36**	.32**	-.46**	-.61**	-.23**									
8.	Subculture	2.79	0.31	.09	.05	-.06	.11	.01	-.09	-.06								
9.	Age	1.85	0.66	.25**	-.09	-.19**	.12	.15*	.02	-.06	-.03							
10.	Gender	1.85	0.66	-.07	.01	-.12	-.02	.02	.13	.02	.04	-.03						
11.	Nationality	2.43	1.03	.19**	-.10	-.11	.12	.19**	.16*	-.09	-.00	.12	.11					
12.	Education	1.90	0.90	.21**	-.17*	-.22**	.15*	.05	-.01	-.03	-.07	.38**	-.00	.19**				
13.	Political orientation	2.46	1.42	-.18**	.11	.16*	-.24**	-.17*	.00	.20**	-.06	-.04	-.05	.13	-.06			
14.	Familiar with psychedelics	1.35	0.49	-.43**	.53**	.36**	-.38**	-.27**	-.16*	.21**	-.09	-.13	-.01	-.02**	-.02*	.08		
15.	Source of information	1.58	0.731	-.20**	.15*	.21**	-.23**	-.13	-.05	.07	-.13	-.14*	.07	-.09	-.05	.06	.12	
16.	Taken psychedelics themselves	1.64	0.48	-.57**	.62**	.41**	-.42**	-.37**	-.18**	.26**	-.01	-.21**	.04	-.16*	-.29**	.08	.51**	.15*

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

Hypothesis testing

The hypothesis analysis was conducted with PROCESS version 4.0 by Andrew Hayes (Hayes, 2017). Notable differences in the variables exist after conducting a factor analysis with a varimax rotation, this, as well as the PROCESS analysis with those variables, can be found in Appendix C (Hayes, 2017).

Model 1. The first model includes Hypothesis 1, 2 and 3. This predicts that *Knowledge* affects *Attitude (recreational)* with *Morality (recreational)* and *Psychological Distance (recreational)* moderating that relationship (see results in table 4 below). In this analysis, Knowledge negatively influences attitudes toward recreational psychedelic use. Due to scoring, a lower negative score means better knowledge about psychedelics. Therefore, as knowledge increases, Attitude towards recreational psychedelic use gets more positive as well, indicating that Hypothesis 1 is significant. The interaction effect of Morality (recreational) is not significant, meaning that Hypothesis 2 is rejected. However, Morality (recreational) positively influenced attitudes towards recreational psychedelic use, i.e., as Morality (recreational) increased, Attitude towards recreational psychedelic use also grows more positive.

Psychological distance (recreational) was not significant as an interaction effect; therefore Hypothesis 3 was rejected. Nonetheless, it negatively influenced attitudes towards recreational psychedelic use; as Psychological Distance (recreational) reduced, Attitude towards recreational psychedelic use grew more positive. The covariates *age, nationality, political orientation, education, familiarity with psychedelics, taken psychedelics themselves,* and *sources of information* were included in the analysis. Here, participants with the educational levels high school, bachelor and master had a better attitude towards recreational psychedelic use than participants with a PhD and participants who indicated ‘other’. However, it is important to note

that due to the sample size of participants indicating 'PhD' (N = 4) and 'other' (N = 4), the results were less reliable. Females had a better attitude towards recreational psychedelic use than males and as age increased, attitude towards recreational psychedelic use also grew more positive. Lastly, those who had taken psychedelics before had a better attitude towards recreational psychedelic use than those who had not taken psychedelics

Table 4

Results process analysis model 1

	p	t	standardised coefficient	95% CI	
				LL	UL
Predictor Knowledge	.00	-3.62	-.35	-0.54	-0.16
Interaction 1 Morality	.36	0.92	.15	-0.17	0.47
Interaction 2 Psychological distance	.07	1.82	.19	-0.02	0.40
Morality (recreational)	.00	8.89	.71	0.55	0.87
Psychological distance (recreational)	.01	-2.60	-.15	-0.26	-0.04
Education High School	.03	2.14	.58	0.04	1.12
Education Bachelor	.03	2.19	.59	0.06	1.12
Education Master	.02	2.32	.65	0.10	1.19
Gender Female	.05	1.92	.48	-0.01	0.97
Age	.02	2.28	.01	0.00	0.02
Taken psychedelics themselves_yes	.01	2.69	.30	0.08	0.51

Model 2. The second model includes hypotheses 4. 5 and 6. This explains that Attitude (recreational) affects Attitude (therapy) with Morality (therapy) and Psychological Distance

(therapy) as moderators of that relationship (see results in table 5 below). Here, Attitudes towards recreational psychedelic use positively influenced attitudes towards psychedelic use in therapy, i.e., as Attitude towards recreational psychedelic use got more positive, Attitudes towards psychedelic use in therapy also grew more positive. This indicates that hypothesis 4 is accepted. Both moderations, Morality (therapy) and Psychological distance (therapy), showed an insignificant interaction effect and therefore, rejecting hypotheses 5 and 6. Despite that, Morality (Therapy) negatively influenced attitudes towards psychedelic use in therapy; i.e., as Morality (therapy) increased, attitude towards psychedelic use in therapy got more negative.

Table 5

Results process analysis model 2

	p	t	Beta coefficient	95% CI	
				LL	UL
Predictor attitude (recreational)	.00	6.46	.35	0.25	0.46
Interaction 1 Morality (therapy)	.37	0.90	.06	-0.07	0.18
Interaction 2 Psychological distance (therapy)	.31	1.02	.04	-0.03	0.11
Morality (therapy)	.00	-6.15	-.35	-0.47	-0.24

Exploratory analysis

In the questionnaire, participants were asked if they had taken psychedelics before. After an individual exposed themselves to psychedelics, they might be able to assess the effects of psychedelics, and how they can (or cannot) contribute to therapy, better. This is called experience-based judgment (Hüllermeier, 2001). Therefore, an additional analysis was conducted. Specifically, the data was split by the covariates "taken psychedelics before".

Further the data was also split into "political orientation" to explore, if the political orientation and the corresponding values with that orientation has an effect on participants' attitude (see Appendix D). Here, 9 participants were indicated to be conservative, therefore, these participants were excluded in this particular analysis. The analysis with the split variable "political orientation" can be found in appendix D.

Model 1. After the data was split by participants who have not taken psychedelics (N = 133), the predictor knowledge had an insignificant effect on the dependent variable Attitude (recreational), therefore effectively rejecting Hypothesis 1 (see results below in Table 6). Both the interaction variables Morality (recreational) and Psychological distance (recreational) did not have a significant effect on the relationship between knowledge and Attitude (recreational). Meaning that Hypotheses 2 and 3 were rejected too. Moreover, participants with a high school, bachelor, and master education had a better attitude towards recreational psychedelic use than other educational groups.

Among those participants who had already taken psychedelics; (N = 74), Knowledge negatively influenced attitudes towards recreational psychedelic use i.e., based on scoring, as knowledge increased, Attitude towards recreational psychedelic use grew more positive among those who had already taken psychedelics. The interaction effect of the moderators Morality (recreational) and Psychological Distance (recreational) both were insignificant. However, Psychological Distance (recreational) negatively influenced attitudes towards recreational psychedelic use among those who had already taken psychedelics, i.e., as Psychological distance (recreational) increased, Attitude towards recreational psychedelic use became more negative among those who had already taken psychedelics. The covariates Nationality Dutch and Females showed significance. Those with a Dutch nationality had a poorer attitude towards recreational

psychedelic use than other nationalities and females had a better attitude towards recreational psychedelic use than other gender groups.

Table 6

Results process analysis model 1 - Split data

Split by		*p*	t	Beta coefficient	95% CI	
					LL	UL
Taken psychedelics themselves No N 133	Predictor Knowledge	.44	-0.78	-.95	-3.35	1.46
	Interaction 1 Morality (recreational)	.83	-0.21	-.05	-0.51	0.41
	Interaction 2 Psychological distance (recreational)	.18	1.35	.22	-0.10	0.55
	Education High School	.05	2.00	.76	0.01	1.51
	Education Bachelor	.00	1.99	.76	0.00	1.51
	Education Master	.04	2.12	.84	0.05	1.63
Taken psychedelics themselves Yes N 74	Predictor Knowledge	.01	-2.83	-.55	-0.94	-0.16
	Interaction 1 Morality (recreational)	.94	-0.08	-.05	-1.31	1.21
	Interaction 2 Psychological distance (recreational)	.01	-2.59	-.27	-0.48	-0.06
	Nationality Dutch	.03	-2.23	-.50	-0.95	-0.05
	Gender Female	.05	2.01	.66	0.00	1.31

Model 2. Among participants who had not taken psychedelics yet, attitude (recreational) did not significantly influence Attitude (therapy) (see results below in table 7). Further, both interaction effects of the moderators Morality (therapy) and psychological distance (therapy) were insignificant. However, Morality (therapy) negatively influenced attitudes towards psychedelic use in therapy, i.e., as Morality therapy increased, Attitude towards psychedelic use in therapy became more negative.

Among the participants who had already taken psychedelics, Attitudes towards recreational psychedelic use positively influenced attitudes towards psychedelic use in therapy. The interaction effect of the moderators Morality (recreational) and Psychological Distance (recreational) both were insignificant. Regardless, Morality Therapy negatively influenced Attitudes towards psychedelic use in therapy, i.e., as Morality therapy increased, Attitude towards psychedelic use in therapy became more negative.

Table 7

Results process analysis model 1 - Split data

Split by		*p*	t	Beta coefficient	CI	
					LL	UL
Taken psychedelics themselves No N 133	Predictor attitude (recreational)	.47	-0.72	-.39	-1.44	0.67
	Interaction 1 Morality (therapy)	.39	0.86	.08	-0.11	0.27
	Interaction 2 Psychological distance (therapy)	.22	1.24	.07	-0.04	0.17
	Morality (therapy)	.01	-2.53	-.60	-1.08	-0.13
Taken psychedelics themselves Yes N 74	Predictor attitude (recreational)	.00	3.56	.38	0.17	0.59
	Interaction Morality (therapy)	.55	-0.60	-.09	-0.39	0.21
	Interaction 2 Psychological distance (therapy)	.83	-0.22	-.02	-0.18	0.14

Discussion

The present study was conducted to determine how attitudes regarding the usage of psychedelics in therapeutic environments are formed. The results of this study suggests that Knowledge about psychedelics directly affects the Attitude towards recreational psychedelic use, and that in turn influences the Attitude towards psychedelic use in a therapeutic environment. These relationships were hypothesised to be moderated by Morality and Psychological distance; however, both had a direct influence on Attitude towards recreational psychedelic use and Attitude towards psychedelics use in therapy.

Theoretical implications

In line with the aforementioned outcomes, Rosenberg (2015) stated that knowledge is shaping an individual's formation of their personal attitude. Here, the individual is using their knowledge to form their attitude about psychedelics. To align this with the results of the study, as Knowledge about psychedelics increases, the Attitude towards psychedelics becomes more positive. This means that the more Knowledge an individual acquires about psychedelics, the Attitude towards them grew more positive as well.

According to the Heuristic Systematic Model (HSM), individuals who are not motivated to acquire more knowledge regarding psychedelics and their uses, tend to use heuristics. In turn, individuals who want to know more about psychedelics might use systematic processing. Here, morality and psychological distance were supposed to inhibit the process of acquiring novel information, therefore serving as a form of motivation. This implies, if motivation is low, the Attitude becomes more negative. This means that individuals would either rely on the previous heuristics acquired, or search for information that serves their view on psychedelics.

However, in this study, psychological distance did not serve as a motivating factor to investigate the topic of psychedelics further (or not) but directly influenced the attitude about psychedelics themselves. Individuals are using "[…] themselves as the frame of reference to judge and evaluate external objects, events, and actions" (p.354) in their subjective environment (Liberman et al., 2007) meaning that psychological distance appears to directly affect attitude formation. This aligns with Eagly and Chaiken's affective component of attitude formation (1993). The affective component of attitude formation includes mere exposure, in which individuals develop an inclination for, here, psychedelics, that are familiar to them due to repeated exposure (Zajonc, 2001). If psychedelics are not present in an individual's reality, they are psychologically distant (Liberman et al., 2007). This supports the present findings, which suggested that if Psychological distance increased, Attitude towards recreational and therapeutic psychedelics use becomes more negative.

Further, morality was hypothesised to serve as a moderator of the relationship between knowledge and attitude towards recreational psychedelic use as well as the relationship of attitude towards recreational psychedelic use and attitudes towards psychedelic use in therapy.

In this study, however, morality was not a deterrence to search for more information but directly affected the attitude towards general use of psychedelics positively as well as attitude towards psychedelic use in therapy negatively. These results align with those of Koleva et al., who found participants' moral foundations were directly affecting their attitudes (2012). Individual reactions are based on preconceived patterns from the social environment, for example, moral foundations, and guiding judgement of right and wrong (Koleva et al, 2012).

It is important to further point out that in the first model, morality had a positive impact on Attitude towards recreational psychedelic use. In the second model, Morality had a negative impact on Attitude towards psychedelic use in therapy. After thorough search, no literature was able to support these findings. All the scales were found to be reliable, and a thorough double check of the data showed no errors. Hence, the line or reasoning seems to be inconclusive as of now.

However, these results could be argued with literature stating there are not only cultural or moral differences present between societies but also within them (Graham et al., 2016). It has been shown that moral foundations and judgements can fluctuate within nations as much as between nations (Ruby et al., 2013). Here, morally obnoxious actions in one culture, can be seen as morally necessary in another (Fiske & Rai, 2014). An example would be the honour killing of one's daughter after she had been raped, while it is morally justifiable in one culture, it is morally repulsive in another. In light of psychedelics, ayahuasca ceremonies, that are deemed morally acceptable in South American tribes (Harris, 2017), become more popular in western cultures (Hay, 2020). This could mean that morality is a state variable, reflecting on individuals in a situations and not a trait, which reflects on the individual only (Geiser et al, 2017). This implies that a high morality score might not necessarily lead to a negative attitude towards psychedelic. Thus, this also raises the question of whether morality can accurately be used as a meaningful predictor of attitude, even though effects have been found but a line of reasons seems to be inconclusive. This could mean that, even though reliable scales have been used, it might not have measured what it was aimed to measure. Therefore, the face validity might be decreased.

The findings of an individual's attitude (recreational) influencing the attitude (therapy), can be supported by Vogel and Wänke (2016) who stated that individuals may rely on their attitudes formed in the past in order to form another. Hence, an attitude can also serve as a simple structure organising a complex environment, therefore, effectively being a cognitive schemata (or, heuristic). For the present study, this denotes that when a participant's attitude towards the general use of psychedelics is positive, this can have a positive effect on how future information regarding psychedelic use in therapeutic environments is processed. Another study suggested that if an individual has a low motivation (here, psychological distance or morality) to process certain information, they tend to rely more on their general attitudes (Sanbonmatsu & Fazio, 1990). In essence, if individuals are not motivated to gather more information about psychedelics in therapy, they rely on their previously conceived attitude towards general use of psychedelics.

Additional analyses within the present study suggested that the older the participants were, the more positive their attitudes towards general use of psychedelics. Honda and Jacobson (2005) found an association of age with complementary and alternative medicine but were not able to generalise whether there was an increase for young or older adults. However, further research from Smith et al (2008) found that an increase of age showed a greater overall willingness to use complementary and alternative medicine. Females also showed to have a more positive attitude (recreational) than other genders. Both findings align with the research of Smith et al (2008), that displayed female gender as well as an increase of age to be related to an increased willingness to use complementary and alternative medicine. It speculated that more life experience is thought to account for more familiarity with alternative medicine (Smith et al, 2008). Further, there might be a tendency for females to ‘focus more on inner experience and

ruminate' that could explain a willingness to address subjective inner experiences (Nolen-Hoeksma, Larson & Grayson, 1999).

Moreover, Dutch participants had a more positive attitude towards general use of psychedelics than other nationalities. A suggestive theory would be that due to decriminalisation of drugs in the Netherlands, safer environments are created to talk about - and consume psychedelics. There is less fear or paranoia to get convicted for possession of drugs or getting stigmatised. This fear or paranoia is considered a factor for inducing a bad trip (Raju, 2020). It suggests that the consumption of psychedelics has fewer negative experiences, creating less fear and therefore, stigma, creating better attitudes towards psychedelics. This could create an openness to use psychedelics in therapy. However, a research paper has yet to address the topic of psychological impacts of decriminalisation of drugs.

The exploratory research in this study showed that the data including individuals who have taken psychedelics themselves, demonstrate a higher level of knowledge, which in this case could be the self-experience with psychedelics. This increase in knowledge further correlates with an more positive Attitude towards general use of psychedelics and Attitude towards psychedelic use in therapy. Having experienced psychedelics themselves may decrease participants' psychological distance which aligns with the findings above. This signified that if psychological distance was low, it had a direct, positive influence on attitude (recreational & therapy). Specifically, the individual who had taken psychedelics already might have thus had a higher motivation to gather more knowledge prior to the 'trip' and gathered information during that trip, which then influenced their attitude.

Limitations

This study has several limitations needed to be taken into consideration. First, the number of items for the variable Psychological Distance (therapy) was not sufficient, as the minimum requirement is 3 items per variable for sound psychometric properties (Worthington & Whittaker, 2006). This could have had an effect on the findings. Thus, future research exploring psychological distance is advised to account for this.

Moreover, the reliability of Psychological distance (recreational), Morality (therapy), and Psychological distance (therapy) were low. Therefore, creating more questions for repeated measures is an inherent focus point for future research.

In addition to that, the results including morality raised questions about whether morality could accurately predict attitude. Although the scale's reliability was acceptable, the morality scale items might not have measured the construct they were intended to measure, meaning that the face validity might have been low. Therefore, the face validity should be improved via a pilot test in future research designs.

Further, based on the results, Morality and Psychological distance, both, in the general and in therapeutic aspects, directly influenced the dependent variable instead of having an effect on the relationship between knowledge and attitude (recreational) as well as attitude (recreational) and Attitude (therapy). This could point towards a mediation effect instead of a moderation effect, where Knowledge affects morality negatively and psychological distance positively. In addition, knowledge has a positive effect on attitude towards recreational use of psychedelics. Further, an increase in morality and psychological distance impacts attitude negatively (MacKinnon, 2008). This is described in the study of Eagly and Chaiken (1993) where it is stated that attitudes can be formed through values (here, morals), semantic

generalisations (here, stereotypes), and mere exposure (here, psychological distance). This could be subject to future research.

Additionally, the sample has limited generalizability since the data was obtained through convenience sampling. Further limitations involve self-report biases since this type of measurement can yield incorrect self-assessment when participants respond in a socially desirable fashion. Moreover, interpretation difficulties or through biases via responses from before can be additional limitations (Northrup, 1997). If this research is recreated, it is advised to redo the morality scale and measure the general morality score and not only the morality score towards psychedelics.

Conclusion and implications

Currently psychological problems such as PTSD, addiction or depression, are difficult to treat but new studies have shown new treatment possibilities with psychedelics. The general public seems to have a predominately negative opinion towards psychedelics (Belckova et al., 2011). Currently, no research has been done in regard to attitude and psychedelic use in therapeutic environments. Thus, this research was intended as a starting point for investigation, through application of theory from similar contexts about opinion formation to the one of psychedelics. This study focussed on how these attitudes are formed specifically towards psychedelic use in the therapeutic environment. The outcomes of this study show that knowledge, morality, psychological distance, and attitude towards recreational use are creating an attitude towards psychedelics in therapy.

This study shows that the more educated and exposed an individual is towards the topic of psychedelics, the more favourable the attitude towards it. This study therefore can evoke a

dialogue addressing how to reach people by educational means about treatment potential with psychedelics.

Informing the public about psychedelics seems to play a crucial role in creating a positive attitude towards psychedelics. In order to know which information is valuable, research could focus on evaluating what individuals are searching for when wanting to know more about psychedelics. Based on this, therapists can focus on creating information leaflets for patients who could benefit from psychedelic treatment.

In this study, the matter of morality and psychological distance as motivation to search for more information about psychedelics was discussed. However, motivation as a separate factor could be included in future research.

As already mentioned above, it would be beneficial to study the psychological effects of decriminalisation of drugs and its influences on stigmatisation, and bad experiences.
Even though openness to experience is assumed to be a stable personality trait throughout one's life (McRae & Greenberg, 2014), higher age was associated with a greater overall willingness to use complementary and alternative medicine. It would be interesting to focus on age groups and their willingness to use complementary and alternative medicine and their reluctances towards it.

This study further shows that knowledge is key and the more we educate the public about psychedelics, the easier patients will be able to make an informed decision about treatment possibilities such as psychedelics.

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Appendix A

Topic List Interview

- Knowledgeability - What do you know?
    - Mentioning of facts
    - Representation in the media
    - Source of information
    - Ever tried to actively find information
    - Mentioning of heuristics
    - Distinguishing between the types of drugs

- Identity-related
    - Groups associated with psychedelics
    - Stereotypes?
    - The 60s, hippies, counterculture
    - Know about counterculture?
        - Sexual revolution
        - Psychedelics
        - Music

- Psychological distance
    - Relevance to the individual

- Morality
    - Mentioning of harm/care
        - Society
    - Suppose there would be a drug that is not addictive, not harmful
    - Any other reasons that may come into play when ppl have another
    - Do you think about administering psychedelics in a therapeutic environment?
    - What do you think plays a role in the opinion of psychedelics in other people?
        - Assumed antecedent

Appendix B

Table 8

Axial Coding

open codes	axial codes	theoretical codes
- a form of drug that can also I think, be useful, and medical sense - ecstasy was used as an early antidepressant in the 20s or 30s. - some cultures, use psychedelics for their rituals. - They think it makes them emotionally more considerate. people or people who just enjoy life more than others without the means. - considered a synthetic kind of drug driving people into experiences, fantasy experiences, psychedelic stages	*Facts* - Medical treatment o psychedelics o also herbs and morphine o ecstasy as an early antidepressant - A higher form of mental state o Spirituality o Rituals o Fantasy experiences o Making them emotionally more considerate	Knowledge

- making them **psychologically** addicted - Yeah, little bits of mushrooms, and it feels like you've had a double espresso. He's just you're really alert, you know, you don't feel tripping - the latest thing is Ayahuasca the big the new boy on the block - But the dangers cannot be left out. - you put half a dozen people in a psychedelic state of mind where they're incredibly vulnerable. And then you have somebody who's like a kind of gold figure or a guru figure --- - alcohol and what it's doing with with what you're body, with your mind. And then it was included also mushrooms and harddrugs and stuff like that, - disregarding it not considering it at all, because they think it's all Devil's bullshit. --- - only secondhand information - leaflets they're bad risk, honor leaflet for teenagers the risks of drugs - on news, warnings - flyers at doctors or hospitals, - I never had a personal touch with it - Friends with psychedelic experiences - Firsthand experience --- - I think that's that's a positive something. I mean, it's coming out from nature. So why need to	o Vulnerable state of minds - Discussion of physical addiction o Possibility of psychological addiction o Prohibited in most countries because of risk of addiction - What are psychedelics made of o Mushrooms o LSD o Ayahuasca - Psychedelics are dangerous *Representation in the media* - What Psychedelics, alcohol and other hard drugs doing with your body and mind - Disregarding it because it is devil's bullshit *Source of information* - 2nd hand information o Leaflets in hospitals and doctors (targeting teenagers) o Warnings on news o Friends with psychedelic experiences - First-hand experience *Every tried to actively find information* - Noone actively tried to find more information - If it's natural, why do you need chemical medication? *Mentioning of heuristics*	

use chemistry if if you have the same effect from nature?
 	
_____
 	
- I just heard he thought that he was Superman
- like people who find like spirituality
- search for spirituality in a certain way, like, instead of from religion, through their own
- sometimes it could help but they're too addictive
- Because then if he will try to keep up, they still need the drug to ????
- And you'd like to redo it again, to be in that to get that moment once more.
- You're playing Russian roulette with your mental health
 	
_____
 	
- same group as far as Example hard drugs. - yes
- At the end, I think they could be the same. (diff. between psych. And other drugs)
- Presumably there is due to the way it affects your body and soul. there's certainly drugs, which make you physically dependent or addicted
- and, you know, the psychological addiction is probably attributable to any sort of drug out there. seeking the relaxation or you know, the the trip too often, if you just want it, even more often and so forth, and it creates the problems well known through psychological addiction rather
	- Users think they are superman
	  - Think they can fly
	- Users want to find spirituality
	- Too addictive
	  - One good time and therefore want to redo it again
	
	Distinguishing between types of drugs
	- Hard drugs and psychedelics are the same
	- Different from drugs affecting the body (physical dependency)
	- Addiction	

than a physical dependency on things - ecstasy used as antidepressant (technically not a psychedelic)		

- maybe mainly young people as they usually do by experimenting
- but older people that for whatever reasons
- also think they take like psychedelics and well, I think it's a movement , just tried to live free of social norms
- mystical fanaticism, towards absolutist thinking
- hose non conventional groups, musicians, artists, hippies
- I find it's people who are in a religious deception.
- examples of people who have turned out to be outright outright extreme right wingers, Holocaust deniers really down the conspiracy rabbit hole, and this is very much related with, with with the use of psychedelics, it cannot be denied its put people
- perspective, progressive, open your mind up, but it's ended up is ended up putting people into a tunnel vision rather than a universal vision of love, or harmony
- forced hatred
 	
- because they want to risk something
- they feel I don't know depressed and want to have something to highlight the lifes
- great inventors also used some kind of psychedelic drug.
	Groups associated with psychedelics
	- Young people
	  o Like to experiment
	- Older people
	  o Feel a highlight in their life
	- Psychedelic movement
	  o Mystical fanaticism
	  o Cult based
	  o Not particular happy
	- Non-conventional groups (e.g. musicians, artist, hippies)
	- People in religious deception
	- Outright extreme right wingers
	- Conspiracy theorists
	  o Holocaust deniers
	
	Stereotypes
	- Users are risk inclined
	  o Find a highlight in their life
	- Used in processes of great inventions
	- Person who wants to exist outside of conventional frameworks
		Subculture

- considered perceived themselves to to exist outside conventional societal frameworks. Always happy to cross the boundary when it's set by a bloody bureaucrat I dislike anyhow.
- people who are on the very extreme conspiratorial fringes, you are very much against government lockdown are very much against what they see as infringement of the absolute against vaccines, but against the the superiority of the ndividual above all else
- I would use a psychedelic fascism.
- conspiracy rabbit holes, I would argue that they were slowly or mildly psychotic already
 	
- Woodstock festivals
  - everything you can do and it's a free life and
  - more into I know, a lot of drugs, a lot of alcohol, but more soft drugs? Not something like that. I wouldn't, I wouldn't bring back connection
- also think they take like psychedelics and well, I think it's a movement , just tried to live free of social norms
 	
- the maternal Earth goddess, the beautiful earth Goddess of the 60s has morphed into a bitter,
	- Defiance against the law (if its forbidden it's a reason to do it)
	- Very extreme of the conspiratorial fringes
	  - Anti-vaccine
	  - Anti-lockdown
	  - Psychedelic fascism??
	
	60s, hippies, counterculture
	
	- Woodstock festivals
	- Movement, Free life
	- Consumption of
	  - Alcohol
	  - Soft drugs
	- Psychedelics do not have anything to do with the counterculture
	- Conspiracy theories
	  - Supremacist ideas
	- Individualism, libertarianism	

old, vicious hag spouting hate and conspiracy and anti semitism in particular - Charles Manson experience - of the 60s, is like the hippies individually is on this kind of stride and individualism, stride and libertarianism. When it's left unchecked, it becomes something very, very ugly, you know? - becomes a kind of supremacists idea		

- I don't have any experiences with this.
- not very positive, they went crazy.
- I don't think to me was relevant
- I don't know if I'd be comfortable because I guess I like being sober the most. So like, just because I guess otherwise, I feel anxious or something.
- I'm not interested
 	
- experience of them in the 90s
- Turning the guys into weird stages where they, you know, may not have known what they what they actually put down in writing to sing it again anymore. Pretty much that was in the 60s 70s when the drug appeared to have had quite intense usage in amongst musicians and artists
 	
- friends friendly environment
- Except for this one, this one guy that does mushrooms and went crazy afterwards. I wasn't there
- friend of mine who told me she wanted to try it out because of those like, spiritual experiences,
	Relevance to the individual
	- No experience
	- Second-hand experiences
	  ○ They went crazy
	  ○ Almost died
	- Not interested
	
	Temporal
	- Experience from the past
	  ○ 90s
	  ○ 60s/70s
	
	Social
	- Friends
	  ○ Went crazy
	  ▪ Almost died
	  ▪ Hallucinating
		Psychological distance

and she was like, well, maybe there's something to this. I think she also read a book about it. But I don't think she she took it so far. - she tried to kick off she was totally crazy She was hallucinating, she was everything, seeing things, she was afraid of everything - were in my close environment - Close friends of mine have tried this stuff. One of them Although an intelligent guy has literally just survived and experience to try it because the the could have killed him. But he survived - seen people with marijuana induced psychosis - I know people who would deny the Holocaust, for example, and they are people who've come from the psychedelic fringe - I've seen who've been messed up by it. They don't want to accept it. They're like in an absolute denial state - was a friend of mine – everytime he drank he would be back in a trip - don't know if if it really had an effect on her - although some specific characteristics, - but you never know if it's caused by LSD or not	▪ Psychosis ○ Conspiracy thoughts ▪ Holocaust deniers ▪ Anti-vaccine etc *Uncertainty/hypothetical* - Not sure if it had a lasting effect	

- It could have effect. could react to the ongoing life rules, the rules of living in the society daily, and their reaction to that society? When the treatments and then maybe they can react differently to the surroundings, environment we live in where they're living in.
- But for the recreation way I could mess up your brain. that could have an impact on society.
- Too addictive
- But recreational use of drugs is basically to give up your morals, it's nice to let go. it's to be basically free
- if the psychedelic industry wasn't monetized, it'd be interesting.
- Everybody who's schizophrenic, everybody who's psychotic, essentially, is in a psychedelic state the whole time without it
 	
- utilize to help people who are psychologically ill or, you know, have other problems? Yeah, why not? I guess the most important bit is to do it in a responsible controlled manner, in an accountable way.
□ if the hypothesis stands, why not basically as long as, as long as it's in a safe environment, and it would not be hurtful, controlled and accountable
- i think if people are happy, then don't mess with their mind.
- this person who's the The guide, how can they be qualified?
	Mentioning of harm/care (Society)
	
	- Negative reaction to rules
	- Psychedelics are too addictive
	- Self-destructive
	- Giving up your morals
	- Rituals incl. psychedelics are rarely free
	  o The lowest form of human greed
	- Escapism
	  o Fear is part of the human survival mechanism
	
	What do you think of the use of psychedelics in a therapeutic environment?
	
	- If it is well researched
	  o Controlled and safe environment
	  o administered in an accountable manner
	- 'Do not mess with people's minds' – it is too risky
	- If the therapist has good enough qualification
		Morality

actually try and put it into a, into a regulated form. How do you do that? That seems really difficult - shifting consciousness which is largely straight edge which has to do with good food, good diet. moderation in substances. Tobacco, caffeine, and yeah, micro dosing, but maybe people will move away from it, - same reluctancy was there with weed former times - And it needs to be published in another way. Not as a drug but as medical - I think the biggest reluctance you will find in our groups of elderly people, people would now no medical indications - more acceptance in a group that's been completely treated until the end without any results that are really searching for new therapies, new therapy.	*What do you think plays a role in the opinion of psychedelics in other people/ Any other reasons that may come into play when people have other opinions?* *Assumed antecedent* - Comparable to the weed/CBD reluctancy - Advantages to psychedelics should be published in a medical way - Patients might use it as a last resort	

Appendix C

Table 9

Covariates

	Model 1	Model 2
Covariates	*p*-value	*p*-value
Age	.01	.35
Nationalities	.07	.15
Political orientation	.39	.70
Education	.63	.07
Familiarity with psychedelics	.82	.55
Taken psychedelics themselves	.01	.83
Source of Information	.84	.76

Table 10

Covariate subculture

Subculture	Mean	SD
Youngsters	2.14	.85
Hippies	2.25	.92
Conservatives	4.07	.88
Liberals	2.43	.81
Baby boomers	3.43	.93
Artists	2.11	.73
Musicians	2.23	.80
Conspiracists	3.06	.90
Businesspeople	3.40	.93

Appendix D

Analysis - Split Data political orientation

Model 1. After the data was split by political orientation, the data with participants who were progressive (N = 100) showed that Knowledge negatively influenced attitudes towards recreational psychedelic use; signifying that with higher knowledge, attitude towards recreational psychedelic use increased. The interaction effect of both, Morality (recreational) and Psychological Distance (recreational) was not significant. Nonetheless, Morality (recreational) positively influenced attitudes towards recreational psychedelic use; and Psychological Distance General negatively influenced attitudes towards recreational psychedelic use; meaning with higher Psychological Distance (recreational), Attitude towards recreational psychedelic use became more negative. Participants with a Masters education had better attitude towards recreational psychedelic use than other educational groups and those with a Dutch nationality had a poorer attitude towards recreational psychedelic use than other nationalities.

Among participants with neutral political orientation, the predictor knowledge did not show to be significant. Similarly, both interaction effects were not significant. Morality (recreational), however, positively influenced attitudes towards recreational psychedelic use; i.e., as morality (recreational) increased, attitude towards recreational psychedelic use also increased. The covariates Gender male and Gender Female showed to be significant, but due to Beta being larger than one, it needed to be checked for multicollinearity. This analysis showed a large Variance inflation factor (VIF) deeming the covariates unreliable. Therefore, they were excluded from further analysis.

Table 11

Results process analysis model 1 - Split data

Political Orientation Progressive N 100	Predictor Knowledge	.02	-2.38	-.38	-0.69	-0.06
	Interaction 1 Morality (recreational)	.54	0.61	.15	-0.35	0.65
	Interaction 2 Psychological distance (recreational)	.14	1.49	.22	-0.07	0.51
	Morality (recreational)	.00	4.17	.50	0.26	0.74
	Psychological distance (recreational)	.05	-1.98	-.16	-0.32	0.00
	Nationality Dutch	.04	-2.06	-.37	-0.72	-0.01
	Education Master	.03	2.18	.87	0.07	1.66
Neutral N 98	Predictor Knowledge	.06	-1.90	-.28	-0.58	0.01
	Interaction 1 Morality (recreational)	.98	-0.03	-.01	0-.53	0.58
	Interaction 2 Psychological distance (recreational)	.64	0.47	.08	-0.27	0.44
	Morality (recreational)	.00	6.62	.86	0.60	1.12

Model 2. In the dataset with those with neutral political orientation, Attitudes towards recreational psychedelic use positively influenced attitudes towards psychedelic use in therapy. This means that hypothesis 4 can be accepted. The moderator Morality (therapy) shows a significant positive interaction. The interaction interpretation of the Process analysis indicates that at higher values of morality therapy, the relationship between general attitude towards psychedelic use and attitude towards psychedelic use for therapy is stronger. Nevertheless, the interaction effect of psychological distance (therapy) is insignificant. Further, Morality (therapy)

negatively influenced Attitudes towards psychedelic use in therapy; meaning, as Morality therapy increased, Attitude towards psychedelic use in therapy became more negative. Further, at higher values of morality therapy, the relationship between general attitude towards psychedelic use and attitude towards psychedelic use for therapy is stronger.

Among those with progressive political orientation, Attitudes towards recreational psychedelic use positively influenced attitudes towards psychedelic use in therapy, and hypothesis 4 can be accepted. Both interaction effects of the moderators were insignificant. However, Morality Therapy negatively influenced attitudes towards psychedelic use in therapy; i.e., as Morality therapy increased, Attitude towards psychedelic use in therapy became more negative.

Table 12

Results process analysis model 2 - Split data

Political Orientation Neutral N 98	Predictor attitude (recreational)	.00	4.79	.38	0.22	0.53
	Interaction 1 Morality (therapy)	.05	1.98	.18	-0.00	0.35
	Interaction 2 Psychological distance (therapy)	.64	0.46	.02	-0.07	0.11
	Morality (therapy)	.00	-4.17	-.37	-0.54	-0.19
Progressive N 100	Predictor attitude (recreational)	.00	3.44	.34	0.14	0.53
	Interaction 1 Morality (therapy)	.34	-0.96	-.11	-0.33	0.12
	Interaction 2 Psychological distance (therapy)	.83	0.22	.01	-0.11	0.14
	Morality (therapy)	.00	-4.11	-.37	-0.55	-0.19

Appendix E

Factor analysis and recoded variables

Factor analysis. In the factor analysis the individual items of the scales *Attitude, knowledge, Psychological distance, Morality,* as well as *Attitude towards psychedelic use in therapy, Morality towards psychedelic use in therapy,* and *psychological distance towards psychedelic use in therapy* were included. Kaiser-Meyer-Olkin sample adequacy shows $p < .5$ (p =.886) indicating that the sample is suited for a factor analysis. Adequate correlations were indicated by a significant Bartlett's test score ($p < .01$) . The initial analysis obtained 13 components showing an eigenvalue over Kaiser's criterion 1 and combined explained 68.01% of the variance (see Table 4). In the analysis both oblique rotations (promax, direct oblimin) and orthogonal (varimax) rotation were used. The component correlation matrix in promax as well as direct oblimin rotation displayed low correlation between the factors. Therefore, for further analysis, the varimax rotation analysis is used (Merende, 1997; Field, 2013). Due to the sample size of 208, the cut off score for the component matrix is .40 (Hair, Black, Babin, & Anderson, 2009)

The rotated component matrix indicated cross loadings, therefore it was chosen to keep the higher loading for further analysis. The first component loaded onto the individual items of the Attitude (recreational)-scale and included some items of the Morality (recreational) scale. The knowledge scale consists of several subscales (heuristic knowledge, systematic knowledge, subjective knowledge). Those subscales are loaded on different components. For the purpose of this research, the mentioned components were combined into one overarching component, measuring knowledge.

The items of the *ATP*-scale as well as items of the Morality (recreational)-scale loaded onto the third component. The 6th component loaded onto the Attitude (recreational) and

Attitude (therapy) scale on the harmless items, therefore, the 6th component was merged with the 1st and 3rd component. The items of the scale Morality (recreational) loaded on the 7th component and Morality (therapy)loaded on the 8th component . Components 9 and 10 can be merged together as they both were loaded on scale Psychological distance (recreational). Lastly, the items for Psychological distance (therapy) loaded on component 13.

Table 13

Factor analysis - varimax rotation

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% Of Variance	Cumulative %	Total	% Of Variance	Cumulative %
1	15.324	28.377	28.377	8.211	15.206	15.206
2	3.928	7.273	35.650	5.880	10.889	26.095
3	2.730	5.055	40.705	5.467	10.125	36.220
4	2.179	4.035	44.740	2.183	4.043	40.263
5	1.950	3.611	48.351	1.999	3.702	43.964
6	1.795	3.325	51.675	1.968	3.645	47.609
7	1.533	2.839	54.514	1.928	3.571	51.180
8	1.500	2.777	57.291	1.843	3.414	54.593
9	1.285	2.380	59.671	1.573	2.913	57.506
10	1.238	2.293	61.964	1.502	2.782	60.288
11	1.156	2.140	64.104	1.474	2.730	63.018
12	1.086	2.012	66.116	1.386	2.566	65.584
13	1.021	1.891	68.007	1.308	2.423	68.007
Total		68.007			68.007	

Exploratory analysis

Model 1. The first model includes Hypothesis 1, 2 and 3. This predicts that *Knowledge* affects Attitude (recreational) with Morality (recreational) and Psychological Distance (recreational) moderating that relationship. After conducting the analysis, knowledge is shown to have negatively influenced attitudes towards recreational psychedelic use; i.e., based on scoring, as knowledge increased, attitude towards recreational psychedelic use increased. Here, both moderation interactions are not significant. However, Morality (recreational) positively influenced attitudes towards recreational psychedelic use and Psychological distance (recreational) negatively influenced attitudes towards recreational psychedelic use; i.e., based on scoring, as Psychological distance (recreational) increased, attitude towards recreational psychedelic use increased.

Table 14

Process analysis Model 1 - new variables

	p	t	Beta coefficient	95% CI	
				LL	UL
Predictor	.00	-4.47	-.31	-.45	-.17
Interaction 1 Morality (recreational)	.52	.64	.04	-.08	.16
Interaction 2 Psychological distance (recreational)	.39	.87	.09	-.12	.31
Morality (recreational)	.01	2.71	.09	.02	.15
Psychological distance (recreational)	.00	-4.63	-.26	-.36	-.15

After the data was split by participants who have not taken psychedelics (N = 133), knowledge negatively influenced attitudes towards recreational psychedelic use among those who had not taken psychedelics; meaning, based on scoring, as knowledge increased, attitude towards recreational psychedelic use increased among those who had not taken psychedelics. In this analysis, both the interactions of Morality (recreational) and psychological distance (recreational) were insignificant. However, Psychological distance (recreational) had a negative influence towards attitudes towards recreational psychedelic use; but based on scoring, as Psych Distance General increased, attitude towards recreational psychedelic use increased.

Among those who had already taken psychedelics; the predictor variable knowledge showed to be insignificant. As a result, the moderation interactions were both insignificant. However, Morality (recreational) positively influenced attitudes towards recreational psychedelic use and as Psychological distance (recreational) increased, attitude towards recreational psychedelic use increased. Among those who had taken psychedelics before, Germans and Indians had a poorer attitude towards psychedelic use than other nationalities. Further, as age increased, attitude towards recreational psychedelic use also increased.

Among those with progressive political orientation, knowledge negatively influenced attitudes towards recreational psychedelic use; i.e., based on scoring, with higher knowledge, attitude towards recreational psychedelic use increased. Both of the interaction effects were insignificant. But, Psychological distance (recreational) negatively influenced attitudes towards recreational psychedelic use. This means that based on scoring, with higher Psychological distance (recreational), attitude towards recreational psychedelic use increased. In addition, as age increased, attitude towards recreational psychedelic use also increased.

After the data was split by those with neutral political orientation, knowledge negatively

influenced attitudes towards recreational psychedelic use; again, based on scoring, with higher knowledge, attitudes towards recreational psychedelic use increased. The interaction effects of Morality (recreational) and Psychological distance (recreational) were insignificant. However, Morality (recreational) negatively influenced attitudes towards recreational psychedelic use and Psychological distance (recreational) negatively influenced attitudes towards recreational psychedelic use; i.e., based on scoring, with higher Psychological distance (recreational), attitude towards recreational psychedelic use increased.

Table 15

Model 1 new variables - split by

Split by		*p*	t	Beta coefficient	95% CI	
					LL	UL
Taken psychedelics themselves No N 133	Predictor Knowledge	.00	-4.81	-.38	-.54	-.23
	Interaction 1 Morality	.58	.56	.04	-.11	.20
	Interaction 2 Psychological distance (recreational)	.54	.62	.08	-.18	.34
	Psychological distance (recreational)	.00	-3.55	-.24	-.37	-.11
Taken psychedelics themselves Yes N 74	Predictor	.77	-.29	-.05	-.38	.28
	Interaction 1	.77	.30	.04	-.22	.30
	Interaction 2	.49	-.69	-17	-.64	.31
	Morality	.00	3.40	.17	.07	.27
	Psychological distance (recreational)	.04	-2.06	-.21	-.42	-.01
	Nationality German	.04	-2.08	-.29	-.57	-.01
	Nationality Indian	.01	-2.67	-.48	-.83	-.12

	Age	.02	2.44	.02	.00	.03
Political Orientation Progressive N 100	Predictor Knowledge	.00	-2.75	-.28	-.48	-.08
	Interaction 1 Morality	.84	.21	.02	-.16	.20
	Interaction 2 Psychological distance (recreational)	.12	1.56	.24	-.07	.55
	Psychological distance (recreational)	.03	-2.17	-.21	-.40	-.02
	Age	.01	2.81	.01	.00	.03
Neutral N 98	Predictor	.00	-3.75	-.35	-.53	-.16
	Interaction 1 Morality	.31	1.02	.09	-.09	.27
	Interaction 2 Psychological distance (recreational)	.56	.58	.09	-.22	.40
	Morality (recreational)	.00	3.49	.15	.06	.23
	Psychological distance (recreational)	.00	-3.20	-.23	-.37	-.09

The second model includes hypothesis 4. 5 and 6. This explains that Attitude (recreational) affects Attitude (therapy) with Morality (therapy) and Psychological Distance (therapy) as moderators of that relationship. After the analysis was conducted, attitudes towards recreational psychedelic use positively influenced attitudes towards psychedelic use in therapy; meaning that., as attitude towards recreational psychedelic use increased, attitudes towards psychedelic use in therapy also increased. Here, both interaction 1 and interaction 2 were insignificant. However, morality (therapy) negatively influenced Attitudes towards psychedelic use in therapy; i.e., as Morality therapy increased, Attitude towards psychedelic use in therapy

became more negative. Further, Non-Binaries had a better attitude towards therapeutic use of psychedelic than other gender groups.

Table 16

Results process analysis Model 2 new Variables

	p	t	Beta coefficient	95% CI	
				LL	UL
Predictor	.00	12.11	.71	.59	.82
Interaction 1 Morality	.26	1.12	.12	-.09	.33
Interaction 2 Psy. D	.32	.99	.05	-.05	.15
Morality (recreational)	.01	-2.51	-.15	-.26	-.03
Gender Non-Binary	.05	1.97	.92	-.00	1.84

After the data was split, among those who had not already taken psychedelics, attitudes towards recreational psychedelic use positively influenced attitudes towards psychedelic use in therapy; i.e., as attitude towards recreational psychedelic use increased, attitudes towards psychedelic use in therapy also increased. Morality (therapy) and psychological distance (therapy) did not show a significant interaction effect. This is similar to the data after it was split by participants who had taken psychedelics before and had a progressive political orientation.

Among those with neutral political orientation, Attitudes towards recreational psychedelic use positively influenced attitudes towards psychedelic use in therapy; i.e., as attitude towards recreational psychedelic use increased, attitudes towards psychedelic use in therapy also increased. Here, both the interactions were insignificant as well but morality (therapy) negatively influenced attitudes towards psychedelic use in therapy; i.e., as morality

therapy increased, Attitude towards psychedelic use in therapy became more negative. Further, Indians had a better attitude towards psychedelic use in therapy than other nationalities.

Table 18

Results process analysis Model 2 new variable - split data

Split by		*p*	t	Beta coefficient	95% CI	
					LL	UL
Taken psychedelics themselves No N 133	Predictor Attitude	.00	9.71	.71	.57	.85
	Interaction 1 Morality	.89	-.14	-.02	-.31	.27
	Interaction 2 Psychological distance (therapy)	.45	.75	.05	-.07	.16
Taken psychedelics themselves Yes N 74	Predictor	.00	10.23	.71	.57	.85
	Interaction 1 Morality (therapy)	.87	-.17	-.02	-.31	.26
	Interaction 2 Psychological distance (therapy)	.32	1.01	.06	-.05	.17
Political Orientation Progressive N 100	Predictor Attitude	.00	5.41	.49	.31	.37
	Interaction 1 Morality (therapy)	.44	-.78	-.12	-.42	.19
	Interaction 2 Psychological distance (therapy)	.76	.31	.02	-.13	.18
Neutral N 98	Predictor	.00	9.55	.74	.58	.89
	Interaction 1 Morality (therapy)	.12	1.57	.24	-.07	.55
	Interaction 2 Psychological distance (therapy)	.36	.91	.07	-.08	.22
	Morality (therapy)	.01	-2.62	-.21	-.38	-.05
	Nationality Indian	.05	1.99	.28	.00	.56

Appendix F

Questionnaire

Informed Consent Dear participant, welcome and thank you for taking part in this study.
We are assessing your opinion on psychedelics. You will be presented with information relevant to psychedelics and asked to answer some questions about it. The questionnaire includes both, closed and open questions and should take you around 15 minutes to complete. This questionnaire has been reviewed and approved by the BMS Ethics Committee. Participation in this research is completely voluntary. As a participant, you can stop your participation in the research at any time, or refuse the use of your data for the research, without giving any reason. If you have any questions or complaints about this research you can contact the Ethics Committee of the faculty BMS of the University of Twente: ethicscommittee-bms@utwente.nl. Please be assured that your responses and personal information will be anonymized and kept completely confidential. If you choose to erase the personal data or request access, please contact the Principal Investigator in the study to discuss this research, please email Inga Floer (i.m.floer@student.utwente.nl). By clicking the button below, you acknowledge that your participation in the study is voluntary, you are 18 years of age, and that you are aware that you may choose to terminate your participation in the study at any time and for any reason

End of Block: Informed consent

Start of Block: Personal experience

Q1 I am familiar with psychedelics.

- o Yes (1)
- o No (2)

Q2 What are psychedelics?

There are several types of drugs being classified as psychedelics. Those are Lysergic acid diethylamide (LSD), dimethyltryptamine (DMT), mescaline, and psilocybin. They can change the functional connectivity in the brain, resulting in an altered perception and cognition. This is also well-documented in pop culture depicted as visual hallucinations and a sense of becoming ‘one with everything’.

End of Block: Personal experience

Start of Block: Source of information

Q3 In the following, you will be asked to indicate your source of information about psychedelics.

Q4 I heard about psychedelics from

o friends (1)

o media (2)

o scientific research (3)

Q5 Are there other sources that informed you about psychedelics? If so, please indicate these below.

_____

Q6 I have taken psychedelics myself.

o Yes (1)

o No (2)

End of Block: Source of information

Start of Block: Attitude

Q7 How much do you agree with the following statements?

Rate from 1-5 (1 being the lowest and 5 being the hightest).

Q8 Psychedelics are...

	1 (lowest)	2 (2)	3 (3)	4 (4)	5 (highest)

	(1)				(5)
beneficial (1)	o	o	o	o	o
(bad (2) (recoded)	o	o	o	o	o
important (3)	o	o	o	o	o
dangerous (4) (recoded)	o	o	o	o	o
harmless (5)	o	o	o	o	o
useful (6)	o	o	o	o	o
therapeutic (7)	o	o	o	o	o

End of Block: Attitude

Start of Block: Knowledgability

Q9 Please rate, how much you agree with the following statements about psychedelics.

Q10(recoded) Psychedelics are hard drugs

- o Strongly agree (1)
- o Somewhat agree (2)
- o Neither agree nor disagree (3)
- o Somewhat disagree (4)
- o Strongly disagree (5)

Q11 (recoded) Psychedelics are as addictive as heroin.

- o Strongly agree (1)
- o Somewhat agree (2)
- o Neither agree nor disagree (3)
- o Somewhat disagree (4)
- o Strongly disagree (5)

Q12 (recoded) Psychedelics are like cocaine.

- o Strongly agree (1)
- o Somewhat agree (2)
- o Neither agree nor disagree (3)
- o Somewhat disagree (4)
- o Strongly disagree (5)

Q13 I know pretty much about psychedelics. (Flynn & Goldsmith, 1999)

- o Strongly agree (1)
- o Somewhat agree (2)
- o Neither agree nor disagree (3)
- o Somewhat disagree (4)
- o Strongly disagree (5)

Q14 I think I know enough about psychedelics to feel pretty confident in discussions. (Flynn & Goldsmith, 1999)

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q15 (recoded) I do not feel very knowledgeable about psychedelics. (Flynn & Goldsmith, 1999)

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q16 Among my circle of friends, I am one of the experts on psychedelics. (Flynn & Goldsmith, 1999)

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q17 (recoded) Compared to most other people, I know less about psychedelics. (Flynn & Goldsmith, 1999)

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q18 (recoded) When it comes to psychedelics, I really don’t know a lot. (Flynn & Goldsmith, 1999)

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q19 HSM/Heuristic My experiences/lack of expierence with drugs have made it easier for me to decide how I feel towards psychedelics. (Trumbo, 2002)

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q20 I trust my feelings regarding the topic of psychedelics. (Trumbo, 2002)

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q21 On the issue of psychedelic use, I am willing to place my trust in the experts. (Kim, & Paek, 2009)

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q22 Without seeking a great deal of additional information, I have been able to make a decision about how concerned I am about psychedelics. (Kim, & Paek, 2009)

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q23 I use simple methods to judge whether the information about psychedelics is credible. (Chou et al,, 2021)

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q24 I use the rule of thumb to evaluate information regarding psychedelics. (Chou et al,, 2021)

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q25 HSM/Systematic When the topic of psychedelics comes up, I always try to learn more about it. (Trumbo, 2002)

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q26 When I encounter information about psychedelics, I am likely to stop and carefully think about it. (Trumbo, 2002)

o Stronlgy agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q27 In order to be completely informed about psychedelics, I feel that the more viewpoints I can get the better off I will be. (Trumbo, 2002)

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q28 Before I make my judgment, I spent some time thinking about the information about psychedelics. (Chou et al,, 2021)

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

End of Block: Knowledgeability

Start of Block: Psychological distance 1

Q29 Below you can see seven pairs of circles that range from just touching to almost completely overlapping. One circle in each per is labeled as ‘self’, and the second circle is labeled ‘other’.

Each of the pairs describes a relationship between the ‘self’ and the ‘other’. Here, the ‘self’ stands for you, the participant, and the ‘other’ stands for psychedelic users.

Which picture best describes your relationship with the group of psychedelic users?

1 = no overlap

2 = little overlap

3 = some overlap

4 = equal overlap;

5 = strong overlap

6 = very strong overlap

7 = most overlap.

(Aron et al., 1992)

- o 1 (1)
- o 2 (2)
- o 3 (3)
- o 4 (4)
- o 5 (5)
- o 6 (6)
- o 7 (7)

End of Block: Psychological distance 1

Start of Block: Subcultures

Description In the following, we are going to ask you about what groups of people you associate with psychedelic users.

Q30 In which groups in society do you think using psychedelics is especially popular?

_____

Q31 The use of psychedelics is more prominent among youngsters compared to the general population.

- o Strongly agree (1)
- o Somewhat agree (2)
- o Neither agree nor disagree (3)
- o Somewhat disagree (4)
- o Strongly disagree (5)

Q32 The use of psychedelics is more prominent among hippies compared to the general population.

- o Strongly agree (1)
- o Somewhat agree (2)
- o Neither agree nor disagree (3)
- o Somewhat disagree (4)
- o Strongly disagree (5)

Q33 The use of psychedelics is more prominent among conservatives compared to the general population.

- o Stronlgy agree (1)
- o Somewhat agree (2)
- o Neither agree nor disagree (3)
- o Somewhat disagree (4)
- o Strongly disagree (5)

Q34 The use of psychedelics is more prominent among liberals compared to the general population.

- o Strongly agree (1)
- o Somewhat agree (2)
- o Neither agree nor disagree (3)
- o Somewhat disagree (4)

o Strongly disagree (5)

Q35 The use of psychedelics is more prominent among baby boomers compared to the general population.

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q36 The use of psychedelics is more prominent among artists compared to the general population.

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q37 The use of psychedelics is more prominent among musicians compared to the general population.

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q38 The use of psychedelics is more prominent among conspiracists compared to the general population.

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q39 The use of psychedelics is more prominent among business people compared to the general population

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

End of Block: Subcultures

Start of Block: Psychological Distance 2

Q40 Please rate how much you agree with the following statements about psychedelics.

Q41 (recoded) Social P.D The use of psychedelics is not affecting my social surroundings.

(Spence, Poortinga, & Pidgeon, 2012)

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q42 Psychedelic use is common in people like me. (Spence, Poortinga, & Pidgeon, 2012)

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q43 I often spend time with people who have used psychedelics. (Spence, Poortinga, & Pidgeon, 2012)

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q44 (recoded) Temporal P.D The use of psychedelics is something from the past. (Spence, Poortinga, & Pidgeon, 2012)

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

End of Block: Psychological Distance 2

Start of Block: Morality

Q45 Please rate how much you agree with the following statements.

Users of psychedelics can harm our society.

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q46 Users of psychedelics are victims and should be helped.

- o Strongly agree (1)
- o Somewhat agree (2)
- o Neither agree nor disagree (3)
- o Somewhat disagree (4)
- o Strongly disagree (5)

Q47 The psychedelic industry is dangerous.

- o Strongly agree (1)
- o Somewhat agree (2)
- o Neither agree nor disagree (3)
- o Somewhat disagree (4)
- o Strongly disagree (5)

Q48 People should not use psychedelics, even if it is harmless. (Graham et al., (2011)

- o Strongly agree (1)
- o Somewhat agree (2)
- o Neither agree nor disagree (3)
- o Somewhat disagree (4)
- o Strongly disagree (5)

Q49 People who are lazy or irresponsible should suffer the consequences. (Silver, 2020)

- o Strongly agree (1)
- o Somewhat agree (2)
- o Neither agree nor disagree (3)
- o Somewhat disagree (4)
- o Strongly disagree (5)

Q50 When the government makes laws, the number one principle should be ensuring that

everyone is treated fairly.

- o Strongly agree (1)
- o Somewhat agree (2)
- o Neither agree nor disagree (3)
- o Somewhat disagree (4)
- o Strongly disagree (5)

Q51 authority/respect People who decide to take psychedelics should suffer the consequences.

- o Strongly agree (1)
- o Somewhat agree (2)
- o Neither agree nor disagree (3)
- o Somewhat disagree (4)
- o Strongly disagree (5)

Q52 Authority/respect People should not use psychedelics because it is against the law.

- o Strongly agree (1)
- o Somewhat agree (2)
- o Neither agree nor disagree (3)
- o Somewhat disagree (4)
- o Strongly disagree (5)

Q53 (recoded) Regulated use of psychedelics should be made legal. (Silver, 2020)

- o Strongle agree (1)
- o Somewhat agree (2)
- o Neither agree nor disagree (3)
- o Somewhat disagree (4)
- o Strongly agree (5)

Q54 Normative Statem As long as psychedelics are administered in a controlled environment

they should be safe to use.

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q55 As long as psychedelics are used in a regulated manner it is acceptable to be used.

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q56 (recoded) Psychedelics should be banned in all countries, just like drugs such as cocaine and heroin.

o Strongly disagree (6)

o Somewhat disagree (7)

o Neither agree nor disagree (8)

o Somewhat agree (9)

o Strongly agree (10)

Q57 Psychedelic substances should not be put in the same bracket as other drugs such as cocaine, heroin, and crack.

o Strongly disagree (6)

o Somewhat disagree (7)

o Neither agree nor disagree (8)

o Somewhat agree (9)

o Strongly agree (10)

Q58 (recoded) People are taking psychedelics to escape the mundaneness of their daily life.

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q59(recoded) Users tend to exist outside the conventional societal framework.

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q60 (recoded) Users are lazy.

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q61 harm/care One of the worst things a person could do is hurt another. (Graham et al., (2011)

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

End of Block: Morality

Start of Block: Therapeutic Usage

It is currently researched to use psychedelics in a therapeutic setting. Over the years, there have been positive results combining talk therapy with psychedelics. Mental health patients,

specifically those suffering from depression, anxiety, post-traumatic stress disorder (PTSD), or addiction have shown improvements after this kind of therapy.

In the following, we are going to ask you questions regarding your opinion of psychedelics in a therapeutic environment specifically.

Q62 Knowledgability I do not know anything about the role of psychedelics in a therapeutic environment

- o Strongly agree (1)
- o Somewhat agree (2)
- o Neither agree nor disagree (3)
- o Somewhat disagree (4)
- o Strongly disagree (5)

Q63 HSM I have made a strong effort to carefully examine the scientific information presented on psychedelic use in therapeutic environments.

- o Strongly agree (1)
- o Somewhat agree (2)
- o Neither agree nor disagree (3)
- o Somewhat disagree (4)
- o Strongly disagree (5)

Q64 (recoded) Offering psychedelics in a therapeutic environment is wrong.

- o Strongly agree (1)
- o Somewhat agree (2)
- o Neither agree nor disagree (3)
- o Somewhat disagree (4)
- o Strongly disagree (5)

Q65 If there are indications that psychedelics may be beneficial for certain patients, this should be studied.

- o Strongly agree (1)
- o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q66 There is no difference between exploring new medicines and exploring psychedelics for medical use.

o Strongly agree (1)

o Somewhat agree (2)

o Neither agree nor disagree (3)

o Somewhat disagree (4)

o Strongly disagree (5)

Q67 Temporal psychologic The use of psychedelics will impact how therapy is conducted in the future.

o Strongly disagree (6)

o Somewhat disagree (7)

o Neither agree nor disagree (8)

o Somewhat agree (9)

o Strongly agree (10)

Q68 Morality harm/care As long as psychedelics are medicated in a controlled environment they should be safe to use.

o Strongly disagree (6)

o Somewhat disagree (7)

o Neither agree nor disagree (8)

o Somewhat agree (9)

o Strongly agree (10)

Attitude description How much do you agree with the following statements?

Rate from 1-5 (1 being the lowest and 5 being the highest).

Q69 Attitude

Psychedelic use in a therapeutic environment is...

	1 (lowest) (1)	2 (2)	3 (3)	4 (4)	5 (highest) (5)
beneficial (1)	o	o	o	o	o
bad (2) (recoded)	o	o	o	o	o
important (3)	o	o	o	o	o
dangerous (4) (recoded)	o	o	o	o	o
harmless (5)	o	o	o	o	o
useful (6)	o	o	o	o	o
therapeutic (7)	o	o	o	o	o

End of Block: Therapeutic Usage

Start of Block: Demographics

Q70 At last, we would like to ask you about your demographic information.

Q71 Please indicate your age

_____

Q72 Please indicate your gender

- o Male (1)
- o Female (2)
- o Non-binary (3)
- o Transgender (4)
- o Prefer not to say (5)

Q73 Please indicate your nationality

- o Dutch (1)
- o German (2)
- o Indian (3)
- o Other (please specify) (4) _____

Q74 Please indicate your level of education

- o High School degree (1)
- o Bachelor's degree (2)
- o Master's degree (3)
- o PhD (4)
- o Other (please specify) (5) _____

Q75 Political orientation

o Progressive (1)

o Conservative (2)

o Neutral (4)

Thank you for taking part in our questionnaire!

The purpose of our study is to measure how opinions towards psychedelics are formed.

If you have any questions or complaints about this research you can contact the Ethics Committee of the faculty BMS of the University of Twente:

ethicscommittee-bms@utwente.nl.

Please be assured that your responses and personal information will be anonymized and kept completely confidential. If you choose to erase the personal data or request access, please contact the Principal Investigator in the study to discuss this research Inga Floer (i.m.floer@student.utwente.nl).