Spring 6-16-2023

Depersonalization/Derealization Disorder: Symptomatology in Drug Induced Psychopathology

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HON 403: Thesis Continuation

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May 26, 2023

Abstract

Depersonalization/derealization disorder (DPDR) is a severely under-studied mental disorder, regardless of being relatively as prevalent as other serious mental illnesses (SMI) to the general population, such as schizophrenia and obsessive/compulsive disorder (OCD). Due to the nature of the current body of work on the disorder, it's clear there is a need for further research, as there are only a few small scale studies that approach the contradistinction in symptomatology between varying onset triggers. This paper proposes an investigation into whether there is a distinction in severity, duration, and persistence of symptoms between individuals with DPDR triggered by drugs versus non-drug induced cases. The proposed study hypothesizes that symptoms in drug induced individuals will be significantly different from cases induced by other triggers. The outcome of symptoms may depend on many factors, a few such as whether or not an individual continues to experiment with drugs following the development of DPDR, running the risk of re-exposing themselves to a severe episode, whether or not symptoms rooted in post-traumatic stress disorder (PTSD) retrigger dissociative episodes, and the potential of co-occurring hallucinogen persisting perception disorder (HPPD) causing symptoms of perceptual disturbances. The proposed study will use a survey design to collect data from 175 participants, targeting individuals who are currently experiencing DPDR or DPDR-like symptoms, or have recovered from the disorder. Given that significant evidence of distinction is uncovered, this study may be the stepping stone to addressing and developing treatment options for DPDR sufferers in the future.

Depersonalization/Derealization Disorder:

Symptomology in Drug Induced Psychopathology

Hippocrates of Kos, the well known physician of ancient Greece, was the first to classify mental disorders, consisting of rudimentary descriptions and categories for mental illnesses, around 400 BC (Farreras, 2022). However, it was not until 1,509 years later, in 1908 that the mental hygiene movement began to kickstart the normalization of psychiatric disorders (Bertolote, 2008). The theory that we are advanced in mental health knowledge is far from true; there are a number of disorders that are entirely new to the most recent editions of the Diagnostic and Statistical Manual of Mental Disorders (DSM) including depersonalization/derealization disorder (DPDR), a psychopathology classified as a dissociative disorder (5th ed.; DSM–5; American Psychiatric Association, 2013). DPDR was only added to the DSM's fifth edition in 2013, characterized by persistent or recurrent detachment from feelings, body (e.g. feeling as though you're watching yourself from above), and thoughts (depersonalization) and/or detachment from reality and the environment, in respect to surroundings and people (derealization), while maintaining the understanding that the perceptual experience is not real, as opposed to a delusion (Cleveland Clinic, 2020).

Prior to the official release in the DSM, the symptoms of DPDR have been referred to clinically for over a century; the term depersonalization first being coined in 1898 by Ludovic Dugas (Berrios & Sierra, 1977), and the psychopathology was, and still is to an extent, often referred to as depersonalization disorder (DPD) and depersonalization/derealization disorder (DDD, DPRD; Perkins, 2020; Sierk et al., 2018; Guo, n.d.). The cause of DPDR, while still not well understood, is thought to be triggered by trauma, depression, anxiety, stress, and/or recreational drug use (Mayo Clinic, 2017). A decade after its announcement as a DSM

official/updated diagnosis, we still have a very limited understanding of DPDR, or how its original triggers may affect the symptomatology experienced by those with the disorder.

The collection of research that will be presented in this proposal represents the need for updated studies, by showcasing limited, inconclusive, and occasionally accidental results, as well as a substantial lack of relevant research. One study discovered a correlation between marijuana and symptoms of depersonalization, and did so during a trial to examine the effects of cannabis while (simulated) driving (Favrat et al., 2005). However two of the participants experienced adverse effects from the drug. The study reported both as "psychosis," though one was distinctly described as dissociative, "he manifested a severe anxiety with symptoms of derealization and depersonalization. He reported 'watching himself lying on the bed'" (Favrat et al., 2005, p. 2). Another study, more intentionally, conducted research on adverse reactions associated with taking a synthetic hallucinogen, 25I-NBOMe (e.g. 5-HT2A receptor), and the development of hallucinogen persisting perception disorder (HPPD) type symptoms. Although the focus was on HPPD, the researchers state that 25I-NBOMe poses a risk for long term effects of depersonalization and derealization symptoms (Schetz et al., 2022). While these two studies aid in the correlation between psychotropic drugs and the development of DPDR or DPDR-like symptoms, they do not indicate whether or not drug induced symptomatology differs from that of DPDR due to other triggers (e.g. trauma, such as emotional maltreatment).

There appears to be a severe deficiency in research analyzing the relationship between DPDR's onset triggers and the symptomology and severity of the psychopathology experienced. Throughout the development of this proposal, only one trial testing the differences between drug induced participants (D group) and non-drug induced participants (ND group) was uncovered. The study was conducted with a total of 164 participants suffering from DPDR or chronic

DPDR-like symptoms: 40 subjects in the D group, and 124 subjects in the ND group (Medford et al., 2003). Those in the D group attributed the onset of their DPDR symptoms to a drug related episode (using one or more of the following: LSD, cannabis, ecstasy, or a combination of drugs including one of the previously listed), experiencing symptoms during the episode or within 72 hours of drug ingestion. The D group consisted of mostly male participants (40 males, 10 females) whereas the ND group was a nearly even ratio (64 males, 60 females). Additionally the mean onset age for D group was 29.9, whereas the mean onset age for ND group was significantly higher at 37.9. In order to obtain more accurate comparisons the researchers randomly selected 40 participants from ND group, weighted by sex and age (40 males, 10 females, aged 18-51 with a mean of 30.38 years old); then a comparison between the 40 ND participants was made against the 20 of the D group who attributed symptom onset to cannabis use (with no other drugs present). Few significant distinctions were made between the two groups, except for the presence of visual light flashes (a potential symptom of HPPD - this finding is not stated in the study), with 13 of 18 D group participants experiencing this phenomenon, versus 11 of 35 who answered in the ND group (Medford et al., 2003).

However, Simeon et al. (2003) also conducted a study comparing all factors of symptomatology and induction in 117 participants with DPDR. These researchers report that anxiety, personality, and mood disorders are all frequently comorbid with the disorder but do not foretell severity; at the time of this report obsessive-compulsive disorder (OCD) was listed under anxiety disorders in the DSM, and therefore may be included in the researchers' claim of comorbidity. Additionally, induction triggered by panic, depression, stress, or psychotropic drug intake were also reported to not predict severity. Similarly to the study done by Medford et al. (2003), the results showed little distinction between drug and non-drug related onset triggers.

Regardless of the outcomes from these studies, it's crucial to note that these two relatively small scale trials were published two decades ago; before an updated release of psychopathology was introduced in the DSM-5, despite 'depersonalization disorder' being previously recognized. Simeon et al. (2004) claimed that the prevalence of short term hallucinogen use induction is 6% and induction via cannabinoids is 13%; while significant, this still leaves a lot of blank pages for this chapter on a disorder already underdiagnosed and poorly treated. In cases of co-morbidity between HPPD and DPDR, there may be a persistent retriggering factor, as derealization, being the feeling of an 'unreal' world or environment, could potentially be triggered due to perceptual disturbances displayed in HPPD symptomatology. Additionally, misdiagnosis between non-comorbid HPPD and DPDR is common, despite the requirement for depersonalization and derealization needing to be excluded or unrelated to the symptomology before diagnosis of HPPD (Schetz, 2022). In the case that there is a potentially substantial group of DPDR sufferers misdiagnosed with HPPD, this would detract a significant amount of figures from drug-onset related research, and may also reveal the previous study's findings as misleading or completely inaccurate. Moreover, DPDR continues to be a condition resistant to drug intervention, with antidepressants, selective serotonin reuptake inhibitors (SSRIs), and antipsychotics being of little use as a definitive treatment (Sierra, 2014). However, the use of clonazepam paired with SSRIs has potential as an intervention for some, "clonazepam is more effective in patients who suffer from depersonalizations and derealizations resulting from posttraumatic stress disorder but is less effective in drug-induced depersonalizations and derealizations, although the reason for this is unclear." Though, the treatment's success may be dependent on whether or not the psychopathology was drug induced to begin with (Schetz, 2022, p. 6). This is another core reason pointing to the necessity for further research.

Therefore, the proposed research questions if the presentation, severity, and/or duration of symptomatology significantly differs in patients with drug induced DPDR, compared to those whose onset was triggered by other factors. This research originally hypothesized that a minimum of severity would be poorer, at least short term, and that duration will be either much shorter or significantly longer - dependent on whether or not the inflicted person pursues further attempts of drug intake (in these cases, symptoms must persist significantly beyond time of intoxication). This argument is stemmed from cases of drug users (excluding short term or one-off users) being more likely to put themselves in another situation that may retrigger or worsen their symptoms due to potential addiction, as well as are more likely to experience withdrawal which can trigger symptoms and increase severity (Schetz, 2022). Another key factor is fear/shame in coming forward to participate in research or seek professional help due to engagement in illicit activities. In the presence of any mental disorder it is common for people to self-medicate with illicit drugs, cannabis, or alcohol which can worsen the effects of said psychopathology, especially in cases where drugs may be a potential trigger for onset or relapse of symptoms, such as in DPDR (Wagner, 2019). Though, however relevant these factors may be, it is important to not discount similar retriggering factors that may be associated with non-drug related groups, such as PTSD or complex post-traumatic stress disorder (CPTSD) flashbacks and dissociation, which may have similar or potentially more extreme symptom engagement. For this reason, this research hypothesizes that there will be a distinction in psychopathology, due to differing or additional symptom triggers. However, how these differences are presented has yet to be identified.

Methods

Participants and Sampling Procedures

To test the hypothesis, participants will be recruited online via Facebook support groups for DPDR by a researcher who will have joined the group, given that permission was granted to do so by the group's founders. The researcher will then post to the online forum a request for research volunteers regarding symptomology in DPDR, which will include an email for interested parties to contact. By gathering participants in this niche environment, the recruiter will predetermine the criterion for participants suffering from DPDR, chronic DPDR-like symptoms, or recovered individuals; therefore the study will be using purposive sampling. There are several existing DPDR support groups on Facebook, one with more than 24,000 cumulative members. Due to such a large pool for exposure, gathering a sample size of 175 is a tangible goal (164 participants, Medford et al., 2003), and will provide the opportunity to test equal amounts of drug and non-drug induced participants. Additionally, incentive will not be awarded for participation, as financial barriers could potentially produce a biased or misleading sample considering participants will be from a wide variety of demographics.

Measures

The survey will consist of an initial measure that will include open-ended demographic and categorical questions, such as age, gender, race, economic status, types of drugs used (if any), what triggered the onset of symptoms (if known), and if an individual's symptoms have resolved. The purpose of this section is to categorize the participants into relevant groups (e.g recovered versus not recovered), gather background information, and to identify any patterns of confounding variables to take into account for future studies. Additionally, there will be a measure consisting of questions regarding depersonalization and derealization, as well as a separate section to measure items regarding drug use. Lastly, there will be a small measure consisting of three items to determine the severity, amount of symptoms experienced, and the

length of experienced psychopathology, which will be asked as the following: “how would you rate the severity of your symptoms during an average week?”, “how many of the questions in the Cambridge Depersonalization Scale did you mark a ‘1’ or above on, out of 29 items?”, and “how long have you, or had you, been suffering from DPDR or chronic DPDR-like symptoms?”

The measure concerning depersonalization and derealization will be the Cambridge Depersonalization Scale (CDS; Sierra & Berrios, 2000). The CDS consists of 29 items that weigh both frequency (0-4 scale, 0 = “*never*,” 1 = “*rarely*,” 2 = “*often*,” 3 = “*very often*,” 4 = “*all the time*”) and duration (1-6 scale, “*in general, it lasts*” 1 = “*few seconds*,” 2 = “*few minutes*,” 3 = “*few hours*,” 4 = “*about a day*,” 5 = “*more than a day*,” 6 = “*more than a week*”). A few example items are, “What I see looks ‘flat’ or ‘lifeless’ as if I were looking at a picture” and “Whilst doing something I have the feeling of being a ‘distant observer’ of myself” (Sierra & Berrios, 2000).

Procedures

Given that the recruitment will take place online, the study will as well; therefore a digital written survey will be conducted. Participants will receive a link to the study following shortly after emailing the researcher with interest in participating. Prior to the measurements, the participants will be asked to sign for informed consent and assured of complete anonymity, as well as include any relevant personal details such as first and last name, and preferred contact information.

After the participants have completed and submitted their surveys they will be sent an automated email. This email will consist of debriefing material: an explanation on the purpose of the study, how this knowledge they helped attain will potentially aid in treatment for others with DPDR, and how it could lead to further research on how to prevent others from developing the

disorder or minimize the intensity of symptoms and duration. Additionally, there will be a statement that if there are any further questions they are welcome to email the sender back and a researcher will be happy to answer them. Lastly, there will be link to resources, such as current DPDR therapy tools and organization, as well as suicide hotlines.

Proposed Analysis

To determine a significantly distinct presentation of symptomatology between the drug induced and non-drug induced (IVs, nominal) groups, a MANOVA test could be conducted using the data from the "Severity, Duration, and Prevalence Scale" questions in the study (e.g. "how long have you, or had you, been suffering from DPDR or chronic DPDR-like symptoms?"). These questions will assess the severity, duration, and prevalence of symptoms (DVs, ordinal) between the two separate groups, i.e. the two independent variables will be compared by the differences in means from the three dependent variables. ANOVA, being a univariate method, is not designed to evaluate a number of factors in relation to one another between two groups, which would instead be better suited to a t-test. However, three separate t-tests would have to be conducted and then compared, and this significantly increases the risk of a Type 1 error. Therefore, a multivariate method such as MANOVA will be more successful in producing a holistic analysis based on multiple means, as this method's purpose focuses on more than one dependent variable at once. The assumptions of this test are as follows: (Roncoletta et al., n.d.)

- Observations are randomly and independently sampled from the population
- Independent samples are selected from independent populations
- Each dependent variable has continuous data
- Dependent variables are multivariate normally distributed within each group of the independent variables (which are categorical)

- The population covariance matrices of each group are equal (this is an extension of homogeneity of variances required for univariate ANOVA)

If these assumptions are violated there is a higher risk of producing a Type 1 error. Considering our data is ordinal and does not have a normal distribution, there is a chance this study will be incompatible with MANOVA due to this significant Type 1 error risk. In the case of these violations, there are non-parametric MANOVA techniques that may be more suitable, such as using rank data. However, if the sample size is large enough then the use of a MANOVA test will be suitable even though the data is ordinal. This is due to the central limit theorem, which indicates that if there is a very large sample the sample mean will have approximately normal distribution. Therefore, the violation of normal distribution should not be relevant and will not affect results.

However, given that this study will start as small scale research, SAS, SPSS and R language are software programs that can be used to perform the below alternative multivariate testing options for consideration (Finch, 2016):

- Permutation Test
- Structural Equation Models for MANOVA (using the R lavaan package)
- Wilks Lambda (using the MANOVA command in the R MASS library)

Discussion

Implications

Experts report the prevalence of DPDR within the general public as just under 2% (Cleveland Clinic, 2020). However, this statistic does not differ greatly from many other disorders that are more widely known and studied, such as OCD, which has a prevalence of approximately 2.3% within the population (National Institute of Mental Health, n.d.). So why is

it that DPDR feels so elusive amongst the mental health fields and discourse community? DPDR is a dissociative disorder that distorts a person's perception of reality, causing them to loosen their grasp of their own identity and/or the world around them. Due to the very nature of the disorder, the experience is incredibly isolating; even more so when so little research and awareness is spread on the matter. Many go throughout life without knowing what is happening to them, and those around them aren't able to bring comfort with answers; and yet those who do have a diagnosis face discouraging treatment options.

Additionally, research faces the possibility that DPDR sufferers have been misdiagnosed with HPPD (or only diagnosed with HPPD in comorbid cases), in which case a significant amount of those inflicted by drug-induced DPDR have been excluded from previous studies and could potentially be excluded from future ones. If these individuals are not included in current research then the results of this proposed study would likely face inaccurate findings. These factors create a desperate need for further investigation into the nature of this psychopathology, and determining the root causes of potentially distinct symptomology would be a defining step to curating more effective treatment plans (including both therapy and medication interventions), as well as prevention.

Limitations

While recruiting through DPDR online forums may be beneficial to attaining a sufficient sample size, it will however, likely limit the amount of participants who would be recovered from the disorder, due to their potentially not needing to be in a specialized support group after symptom remission. Because of this, the duration variable of the research may be skewed or misleading, as the proposed study will not be able to fully distinguish start-to-finish timelines comparing the drug and non-drug induced groups. Additionally the type of drugs used (for those

with drug triggered symptoms), while reported in the questionnaire, will not be distinguished in the statistical analysis, despite having potential significance to the outcome of the study. Lastly, there is a chance the researcher will not be allowed into the DPDR forum due to lack of personal diagnosis; therefore it may be necessary to recruit a researcher who suffers from DPDR for assistance; this person could be potentially difficult to find and recruit.

Future Directions

Considering the overall deficiency in research done regarding DPDR, the future directions from this study will be extensive. Research directly following this proposed study would benefit from conducting similar studies with participants who have recovered from DPDR or a mix of recovered and those currently experiencing symptoms, to gain a broader understanding of drug-related duration. Additionally, distinguishing which psychotropic drugs are linked to certain aspects of symptomatology. From here, research should delve into how the findings affect potential treatment options (e.g. “do those with drug-induced DPDR respond more positively to SSRI intervention?”) and what the prevalence of drug users developing DPDR or DPDR-like symptoms is, to aid in proposing programs for prevention. Additionally, individuals with HPPD should be carefully diagnosed or reevaluated for potential misdiagnoses. Inconclusive and inconsistent diagnostics between these lesser known disorders skews our understanding of the current population and of the results to studies currently being conducted. With more mindful evaluations and identified psychopathology researchers can aid in identifying, treating, and preventing disorders such as DPDR.

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Appendix

Measurements

Drug Use Questionnaire

A. Do you identify with the following phrase: "my personal use of drugs seemed to have a direct correlation with the onset of my DPDR or DPDR-like symptoms."

   ("*yes,*" "*no,*" "*I do not know / maybe,*" or "*not applicable / have not used drugs*")

B. If you identify drug use as the (or a partial) trigger for symptom onset, please list any and all drugs used ***during*** the time of symptom onset:

   If not applicable, please leave this question blank. If you answered "yes," or "I do not know / maybe," to question "A" above, please answer this question.

   (open space for answer)

C. If you identify drug use as the (or a partial) trigger for symptom onset, please list any and all drugs used ***around the time*** of symptom onset:

   If not applicable, please leave this question blank. If you answered "yes," or "I do not know / maybe," to question "A" above, please answer this question.

   (open space for answer)

1. How often do you participate in illicit drug use?

   (0-4 scale, 0 = "*never*," 1 = "*rarely*," 2 = "*often*," 3 = "*very often*," 4 = "*all the time*")

2. How long before symptom onset did you participate in drug use?

   (0-4 scale, 0 = "*months / never, not applicable*," 1 = "*weeks*," 2 = "*days*," 3 = "*hours*," 4 = "*minutes / during*")

3. When you use illicit drugs does it worsen symptoms of DPDR?

(0-4 scale, 0 = "*never / have not used*," 1 = "*rarely*," 2 = "*often*," 3 = "*very often*," 4 = "*all the time*")

Severity, Duration, and Prevalence Scale

1. How would you rate the severity of your symptoms during an average week? If symptoms have resolved, please answer as an average week during the middle of your symptomatic duration.

   (0-4 scale, 0 = "*very mild, they don't bother me*," 1 = "*mild, they occasionally cause anxiety, annoyance, anhedonia or numbness*," 2 = "*moderate, they can really scare me, I feel less like myself*" 3 = "*moderately severe, extreme anxiety during an episode and/or very little ability to feel emotions*," 4 = "*severe, constant distress, extreme persistent anxiety, frequent episodes of panic attacks and/or complete dissociation from emotions*")
2. How many of the questions in the Cambridge Depersonalization Scale did you mark a '1' or above on (in the frequency section), out of 29 items? Please scroll above to check, if needed.

   (0-4 scale, 0 = "*0-5 items*," 1 = "*6-11 items*," 2 = "*12-17 items*," 3 = "*18-23 items*," 4 = "*24-29 items*")
3. How long have you, or had you, been suffering from DPDR or chronic DPDR-like symptoms? This is for the entirety of the disorder's presence, not frequency of episodes.

   (0-4 scale, 0 = "*weeks*," 1 = "*about a month or two*," 2 = "*several months*," 3 = "*about a year or two*," 4 = "*several years*")

Additional Survey Questions

1. Are you currently experiencing DPDR or DPDR-like symptoms?

   (Yes, No)

2. Do you identify with the following phrase: “My personal use of drugs seemed to have a direct correlation with the onset of my DPDR or DPDR-like symptoms.”

   (Yes, No, I don't know/maybe, Not applicable - have not used drugs)

3. If you identify drug use as the trigger (or a partial trigger) for symptom onset, please list any and all drugs used during the time of symptom onset. If not applicable, please leave this question blank.

   (open space for answer)

4. Have you used any of the following drugs:

   (Psilocybin mushrooms, cannabis, methylenedioxymethamphetamine (MDMA/ecstasy), lysergic acid diethylamide (LSD), other psychotropic drugs, No - I have not used drugs)

5. How often do you participate in drug use?

   (Never have, Never anymore, Rarely - less than once a month, Often - several times a month, Very often - every couple days, All the time - more than once a day)

6. How long before symptom onset did you participate in drug use?

   (Never/not applicable, Months/weeks, Days, Hours, Minutes/during)

7. When you use drugs does it worsen symptoms of DPDR?

   (Never and/or have not used drugs, Rarely, Often, Very often, All the time)

8. How old were you when you first used what might be considered an “illicit drug?” (Approximate age is acceptable)

   (open space for answer)

9. How old were you when you first experienced DPDR symptoms? (Approximate age is acceptable)

   (open space for answer)

10. How would you rate the severity of your symptoms during an average week? If symptoms have resolved, please answer as an average week during the middle of your symptomatic duration.

    (Very mild - they don't bother me, Mild - they occasionally cause anxiety, annoyance, anhedonia, or numbness, Moderate - they can really scare me, I feel less like myself, Moderately severe - extreme anxiety during an episode and/or very little ability to feel emotions, Severe - constant distress, extreme persistent anxiety, frequent episodes of panic attacks and/or complete dissociation from emotions. Please expand on this answer as you wish.)

11. How many of the questions in the Cambridge Depersonalization Scale did you mark a ‘1’ or above on (in the frequency section), out of 29 items?

    (1 - 5, 6 - 11, 12 - 17, 18 - 23, 24 - 29)

12. How long have you, or had you, been suffering from DPDR or chronic DPDR-like symptoms? This is for the entirety of the disorder's presence, not frequency of episodes.

(Weeks, About a month or two, Several months, About a year or two, Several years)

13. To your knowledge, does anyone else in your biological family suffer from DPDR?

(Yes, No, If yes, please identify family relationships, i.e., father, twin sister, etc.)

14. To your knowledge, do you suffer from early life trauma?

(Yes, I don't know, Maybe, No. If yes, would you share the age(s) you suffered this trauma?)

15. To your knowledge, have you been diagnosed with other serious mental illness(es)?

(Yes, I don't know, maybe., No. Please expand on your answer as you see fit.)

16. On a scale of 1 to 7, 7 being the highest, how happy do you consider yourself?

(1, 2, 3, 4, 5, 6, 7, Please expand as you are comfortable with.)

17. Compared to your peers, family, or friends, do you consider yourself happier than most?

(Yes, No)

18. How often do you feel lonely?

(Always, Very often, Sometimes, Rarely, Never. Please expand as you see fit.)

19. How often do you feel depressed?

(Always, Very often, Sometimes, Rarely, Never)

20. I am content with the current state of my life.

(Strongly agree, Agree, Somewhat agree, Neither agree nor disagree, Somewhat disagree, Disagree, Strongly disagree)

21. I am satisfied with my life.

(Strongly agree, Agree, Somewhat agree, Neither agree nor disagree, Somewhat disagree, Disagree, Strongly disagree)

22. I am happy with the relationships in my life.

(Strongly agree, Agree, Somewhat agree, Neither agree nor disagree, Somewhat disagree, Disagree, Strongly disagree)

23. I am happy with my professional life.

(Strongly agree, Agree, Somewhat agree, Neither agree nor disagree, Somewhat disagree, Disagree, Strongly disagree0

24. How often do you procrastinate about the status of your personal goals in life?

(Always, Usually, Sometimes, Rarely, Never)

25. Are you currently experiencing symptoms versus resolved symptoms distinction?

(1,2, 3, 4, 5, 6, 7, 8, 9, 10)

26. Do you identify with feelings of solipsism? Solipsism is an extreme feeling of being (or suspecting you are) the only thing in existence: *"only my mind exists."*

(Always, Usually, Sometimes, Rarely, Never)

27. What age group do you fall into?

(18-24, 25-34, 35-44, 45-54, 55-64, 65+)

28. Sex reported at birth

(Female, Male)

29. Gender as you identify.

(Female, Male, Nonbinary, Prefer not to answer, Prefer to self-describe as: (open space for answer))

30. Ethnic background

(White, Black or African American, Hispanic or Latino, Asian or Asian American, American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, Another race)

31. Relationship status

(Single, Cohabitating unmarried, Married, Separated, Divorced, Widowed)

32. Do you have children?

(Yes, No)

33. Education

(Primary, Secondary, Higher (university), Graduate school)

34. Current employment status

(Currently unemployed, On disability, Full time student with further employment, Full time student without further employment, Part time student with additional employment, Part time student without additional employment, Self-employed, Part-time employment, Full-time employment, Retired)

35. Level of household income

(Under $15,000, Between $15,000 and $29,999, Between $30,000 and $49,999, Between $50,000 and $74,999, Between $75,000 and $99,999, Between $100,000 and $150,000, Over $150,000)

Groups and Additional Distinctions from Preliminary Questions

These groups or distinctions may be used to further identify differences between the two groups (drug versus non-drug) and their relationship to a given group, and/or they may be used to reveal confounding variables that could otherwise produce misleading results:

- Drug versus non-drug induced groups, and distinctions between the two groups regarding duration, frequency, severity, and persistency of symptoms
- Currently experiencing symptoms versus resolved symptoms distinction
- Type of drug distinctions in drug induced group
- Basic distinctions in gender, race, age, economic status, etc.