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Autoreferát disertační práce



Symptomatologie ADHD dospělé populace v ČR

Adult ADHD Symptoms and Lifestyles in the Czech Population

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Table of Contents

1. Introduction 5

2. Hypothesis and aims of the study 7

3. Methods 8

4. Results 10

5. Discussion 15

6. Conclusions 21

7. References 23

8. Publications and Conferences 25

Abstract

This study is the first to assess ADHD symptoms and investigate lifestyles in the Czech adult population. It is unique in that ADHD symptoms were assessed in adults and diagnosis was left out of the study. This gives a chance to know approximately how many adults are living with moderate to strong symptoms of ADHD in the Czech Republic. The study was cross-sectional as this allowed me to assess the symptoms and lifestyles in “real time”. The cross-sectional design was a strength as well as a limitation in the sense that it is not possible to see what the individuals assessed will do in the future, whether symptoms will improve or worsen, or likewise if they will change their lifestyles. The results were mostly in line with previous studies that looked at the lifestyles and health of individuals that are diagnosed with the disorder with some exceptions. Unlike other studies reviewed, less associations with ADHD symptoms, in terms of intensity (5-6 score on the Adult ADHD Self-Report Scale v.1.1) and nicotine use were noted. Higher scorers on the ASRS also had higher rates of self-reported physical exercise. One possible explanation for this is that only symptoms were assessed and not diagnosis, therefore what these paradoxical findings mean cannot be fully explained without further research and investigation. The study has vast implications for the field in that clinicians may see individuals who are, for example, obese and/or suffering from substance abuse disorders and may want to dig deeper and screen or test for possible ADHD. Investigating the patient's lifestyles could give hints into the patient possibly suffering from the disorder and avoid issues of misdiagnosis and subsequent treatment error. I am confident that adult ADHD should receive more attention in the psychiatric and clinical psychology field and that when treated with drug therapy in conjunction with counseling the results can substantially improve a person's overall quality of life.

Keywords: ADHD, Adults, Diet, Lifestyles, Symptoms, ASRS

1. Introduction

ADHD is a lifelong neurodevelopmental disorder that is associated with difficulties in concentration, impulsivity and difficulty in sustaining attention in tasks that require it. The disorder is divided for diagnostic reasons in childhood and adult form. Furthermore it is divided among its various presentations, there is the hyperactive impulsive presentation (HI), the inattentive presentation (I) and the combined (C). The disorder is primarily seen in childhood and requires around six symptoms to be present from either the Hyperactive Impulsive presentation or the Inattentive presentation in order to be diagnosable under the criteria of Diagnostic and Statistical Manual fifth edition, from now on written as DSM 5. In adults it requires less symptoms due to the higher probability of dysfunction within the workplace and day to day life (American Psychiatric Association, 2013). In the last few years the numbers of visits and diagnosis for adult ADHD has been steadily increasing in the United States, thus requiring more research into the adult form (Oerlhein et al, 2016). The disorder is thought to have a strong genetic predictor and share the same genetic pathways as other disorders such as substance abuse disorder, a common comorbidity of ADHD (Ptacek et al., 2011). The advent of adult ADHD is relatively new, the disorder is still widely seen as a childhood condition by many psychiatrists and general practitioners. This is primarily the case in Europe where many clinicians fail to recognize adult ADHD and where a system is set up that makes it difficult for adults with current ADHD symptoms and no previous childhood diagnosis to get their treatment. This lack of care in Europe can lead to misdiagnosis and make life very difficult for those afflicted with the condition (Ginsberg et al., 2014). In the case of adult ADHD the visible symptoms may be more elusive and therefore investigating the lifestyles may prove much more useful. Adult ADHD is associated with severe risks in terms of health outcomes with higher rates of mortality due to lifestyles and comorbid conditions such as obesity (Spencer et al., 2014). Some of the lifestyles that are of relevance to adult ADHD include poor dietary habits including impulsive eating such as binge eating. Obesity and being overweight are very typical aspects of the disorder. Other lifestyles that have been may include higher instances of smoking, substance abuse and impulsivity which may make one more susceptible to accidents such as car accidents and falling down due to inattentiveness. The associated lifestyles that were listed all play a major role in the negative health outcomes of the condition, opening the to the question of whether

diagnosing and treating ADHD symptoms can directly influence the secondary lifestyles and the associated adverse health outcomes (Nigg, 2013).

2. Hypothesis and aims of the study

My hypothesis in this research is that in adult ADHD the lifestyles that are commonly noted in those afflicted with the disorder are of the utmost importance to be investigated as they can help clinicians more clearly discover ADHD in adults when other primary symptoms are harder to note. The goal of the research was to look at correlations and associations between high ADHD symptoms as assessed by the ASRS v. 1.1 and lifestyles. Furthermore the gender and age distribution for symptomatology were also taken into account. The hypothesis is that lifestyles may constitute key aspects of the disorder in its adult form as we cannot depend on reports from parents or teachers like in the more common form of childhood ADHD. Furthermore my hypothesis is that individuals with high ADHD symptoms are more likely to adhere to unhealthy lifestyles, have higher rates of substance abuse disorders including nicotine use and engage in binge eating and other disordered eating behaviors, as well as having poor diet such as one high in sweets and fast foods. Furthermore they may be much more likely to play more video games and watch more television. I also hypothesize that investigating the most prominent lifestyles associated with high ADHD symptoms in adults will help bring a more holistic view of adult ADHD and be a useful secondary assessment for clinicians to not misdiagnose adult ADHD for something else or to overlook it altogether.

3. Methods

A national sample of adults aged 18-60 from the Czech Republic was recruited by the STEM/MARK Agency, a professional polling and statistics agency in Prague. The participants aged 18-60 were either recruited online or via direct phone interview. The sample consisted of 1012 participants, of which 507 were males and 505 were females. The participants were approached via a combination of methods. Those aged 18-50 via online questioning and those 50 and above via trained interviewers. This combination of methods was used due to the fact that internet use decreases with the increasing age and the age 50 was chosen as the top limit for best availability of respondents. Furthermore predetermined quotas regarding region, age and educational levels were all fulfilled for a balanced national sample.

All data were subsequently treated using frequency tables and logistic regression analysis based on lifestyle frequency using the Stata V. 14 program. The study was approved by the First Medical Faculty of Charles University in Prague, all participants of the study signed informed consent forms prior to partaking in the study.

Standardized Tests and Materials

The participants of this study were administered the ASRS V. 1.1 to assess ADHD symptomatology with scores from 0 to 6, with 0 being no ADHD symptoms and 6 being extremely strong symptoms. The range of 5-6 points is considered indicative of high symptomatology of adult ADHD, meaning that the individual is likely diagnosable with ADHD. The result of 4 points suggests that the clinician must further investigate whether the patient is suffering from the disorder. Scores of 0-3 indicate no symptoms to weak symptoms. A score of 0 is indicative of no symptoms and low probabilities of the person being diagnosable due to no levels of impulsivity or inattentiveness. The ASRS V. 1.1 questionnaire is standardized and considered a very reliable method of assessing ADHD symptomatology within the adult population (Adler et al., 2006). The table is attached below.

Following the demographic information and ASRS, the participants filled out the self-report questionnaire which focused on their lifestyles in regards to behaviors generally seen in adults with ADHD. The questions were in this order: healthy lifestyles such as their diet and exercise routines, cigarette and tobacco usage, use of illegal

substances, physical activity and sports, hours watching TV per day, how many meals they consume per day, sweets and sugar consumption, daytime tiredness and sleepiness, and sleeping habits. The questions were both open and closed, for example “do you smoke cigarettes: Yes or no” and “how many do you smoke?” Some were put into ranges such as “how many hours of television do you watch per day?” with ranges including 0-1 hrs up to 12 hrs or more. Furthermore, certain questions regarding drug use were rated 0-4 with 0 being a protective factor (eg, do you use cocaine? No = 0). Within the logistic regression calculations, we only included the more prominent risky lifestyles associated with high ADHD symptomatology from our sample. The questionnaire was built on previous research from the authors.

4. Results

In this section the tables showing the statistical frequencies are presented. They begin with the frequencies of the ASRS scores among the sample, then the genders and age groups are associated with the scores. The final section of the results is the other correlations of lifestyles and symptoms scored calculated by ordered logistic regression.

Table 1

ASRS Scores, Frequencies and Percentages Among the Sample

ASRS SCORE	FREQUENCIES	PERCENT
0	369	36,46
1	254	25,10
2	166	16,40
3	116	11,46
4	73	7,21
5	23	2,27
6	11	1,09
TOTAL	1012	100

In Table 1 frequencies of results of the ASRS v. 1.1 are shown along with the percentage of participants that had such scores.

Table 2

ASRS Scores Among the Genders

ASRS SCORE	MALES		FEMALES	
	N	%	N	%
0	187	36,88	182	36,04
1	121	23,87	133	26,34
2	85	16,77	81	16,04
3	56	11,05	60	11,88
4	37	7,30	36	7,13
5	15	2,96	8	1,58
6	6	1,18	5	0,99
Total	507	100	505	100

Pearson chi2 (6) = 3.1 P = 0.79

Table 2: gender differences and ASRS scores are calculated, they were not statistically significant.

More males scored in the highest ASRS scores with N=15 scoring in the 5 and N=6 in the 6 or highest categories, in women it was N=8 and N=5, respectively. Approximately 37% of males and 36% of females had no symptoms whatsoever.

Table 3

Mean ASRS Scores Among the Genders

ASRS SCORE	MEAN ASRS SCORE
Males	1,42
Females	1,36
Total	1,39

Table 3 shows no statistically significant difference among the genders in scores and a mean score that is well within the low levels of symptomatology. Furthermore the scores are within our expectations indicating very low ADHD symptoms in the average of our adult sample.

Table 4

Mean ASRS Scores Among the Age Ranges

AGE	MEAN ASRS SCORE
<=20	2,31
>20 & <=25	1,91
>25 & <=30	1,52
>30 & <=35	1,65
>35 & <=40	1,11
>40 & <=45	1,11
>45 & <=50	1,15
>50 & <=55	1,06
>55 & <=60	1,05
TOTAL	1,39

In Table 4 the mean ASRS scores are calculated among the age categories. Those of the youngest category scored had the highest mean score which was consistent with our expectations and the literature on the subject.

Table 5

Ordered Logistic Regression of ASRS Scores and Lifestyle Variables

Question	Odds Ratio	Std. Err.	Z	P>z	[95% Confidence Interval]
Do you adhere to principles of a healthy lifestyle? (regular diet, healthy drinking regime, regular sleep) (Yes 1, Sometimes 2, Rarely 3, No 4, I don't know what they are 5)	1,21	0,11	2,22	0,027	1,02-1,42
Do you smoke cigarettes? (Yes 1, No 2)	1,47	0,19	2,91	0,004	1,13-1,92
Use of illegal substances – marijuana (Yes, I use it regularly 1, I used it regularly in past 2, I tried it 3, No 4)	0,59	0,06	-4,91	0	0,48-0,73
Use of illegal substances - volatile substances (Yes, I use them regularly 1, I used them regularly in past 2, I tried them 3, No 4)	0,34	0,14	-2,59	0,010	0,15-0,77
Are you regularly involved in physical activity / sport? (No 1, Yes 2)	1,35	0,17	2,39	0,020	1,05-1,74
During a typical day - how much time do you spend: - watching TV: hours	0,95	0,02	-2,02	0,044	0,89-0,99

How many main meals do you consume a day? (4 mains meals daily, 2-3 main meals daily, ½ main meals a day)	0,84	0,07	-1,91	0,057	0,71-1
How many portions of fruits / vegetables do you eat? (>4 portions a day, 2-3 portions a day, 1 or none)	1,29	0,15	2,27	0,023	1,03-1,60
How often do you eat sweets? (3x a week or less, 4-5x a week, every day)	1,37	0,11	4,11	0	1,17/1,59
Are you extremely sleepy or tired during the day? (Yes 1, No 2)	0,46	0,06	-5,90	0	0,36-0,59
Do you have troubles with sleep at night? (Yes 1, No 2)	0,73	0,09	-2,46	0,014	0,59-0,97

Table 5 shows lifestyles and the ordered logistic regression calculations. A self-reported lack of adherence to healthy lifestyles was noted along with higher incidences of eating sweets, use of drugs such as cannabis and volatile substances. It is important to note that on the questions regarding drug use the logistic regressions are negatively coded with 1 being the protective factor of abstinence.

5. Discussion

The results of the study generally confirm that high ADHD symptoms such as impulsivity and inattentiveness as measured by the ASRS v. 1.1 are associated with specific lifestyles. Some surprising and unexpected behavioral tendencies and associations were also found in regards to lifestyles such as physical exercise and

smoking that were contrary to my expectations. The findings, clinical implications as well as limitations of the study will all be mentioned in this section.

When looking at the results of the questionnaire, the individuals with ADHD symptoms were significantly more prone to self-report more overall unhealthy lifestyles, which in our questionnaire consisted in a question regarding abiding to a regular diet, non-excessive drinking regime, and regular sleep (OR = 1,21). As expected, respondents with increased ADHD symptoms had higher rate of cannabis use (OR = 0.59) and an increased tendency to abuse other substances (OR = 0.34); but very surprisingly, very high ADHD symptoms score were *negatively* correlated to cigarette smoking (OR = 1.41). The questions are negatively coded with 1 being the protective factor of not using the substances.

In regards to meals, participants with higher ADHD symptoms reported more frequent eating and snacking (OR = 0.84) but, in concord with expectations, lower consumption of fruits and vegetables (OR = 1.29) and more frequent snacking on sweets (OR = 1.37). Our sample confirms that ADHD symptoms correlate with sleep problems, both with sleep disorders (OR = 0.73) and sleepiness during the day (OR = 0.46). During their free time, respondents with high ADHD symptomatology appear to spend only slightly less time in front of the TV than their counterparts (OR = 0.95) and to great surprise report higher engagement in physical activity and sports (OR = 1.35).

Another surprising finding in terms of drug use was that cocaine and heroin were not used in great significance among either the low ASRS scorers or the high symptom group. This was contrary to most of the findings on the subject especially about cocaine. Cocaine addiction is very common among those with ADHD, often with a very early onset in terms of age (Vonmoos et al., 2013).

The study is the first in the Czech Republic surveying adult ADHD in terms of symptoms and their intensity along with associated lifestyles of the individuals, regardless of diagnosis. A total of 3.36% of the total sample displayed increased ADHD symptomatology, with unique lifestyles associations. Many of the lifestyles that we uncovered in the study are consistent with previous research regarding the negative health outcomes of ADHD such as poor diets and generally poorer overall health as was shown by Nigg (2013).

In regards to symptoms I employed standardized testing rather than diagnosis, the Adult ADHD Self-Report Scale (ASRS v. 1.1.). The ASRS v. 1.1 is one of the most reliable tools for assessing ADHD symptoms and is used in the clinical realm to assist

clinicians in diagnosing individuals (Adler et al., 2006). Nonetheless, it is very important to note that high symptoms score such as 5-6 is not enough to draw a definite ADHD diagnosis and is only indicative of strong symptomatology which can then be further investigated by a clinician.

When looking at questions regarding lifestyle most subjects with high ADHD symptomatology (ASRS scores of 5-6) rated their lifestyles as unhealthy (OR = 1.24). This was a surprising and unexpected result. It showed a high level of awareness and a finding that could be quite beneficial for those seeking psychotherapy and for clinicians to focus on. More research on this could certainly assist in clinical interviews as individuals with high ADHD symptoms seem to not be attempting to make themselves look better than they are in terms of how they assess their lifestyles. It could be that individuals with the symptoms are bothered by their impulsivity and the feeling of loss of control and this may be something that can be a telling sign of needing help as well as possible adult ADHD. Clinicians could ask clients more about assessment of lifestyles to get a better look if it is someone who has ADHD that is in front of them and how to proceed with treatment plans. Indeed it has been stated that it is often worthwhile to investigate for possible ADHD in the case of an obese client and/or a food addict. We found this reviewing literature on the comorbidities and lifestyles seen in those with the disorder (Weissenberger et al., 2017).

The literature on the dietary habits and nutrition of children and adolescents diagnosed with ADHD is quite abundant. It was often found that those diagnosed with the disorder tend to have iron deficiency, omega 3 and 6 imbalances, consume high amounts of fast food and sweets resulting in an overall imbalanced diet consisting of high fat/sugar or high fat/salt as shown by Millichap & Yee (2013). Obesity and hypertension are also prevalent in this population, something which was investigated extensively by Nigg (2013) as an example of an adverse health outcome associated with the disorder. The outcome can very well be an indirect and secondary one that is attributable to the lifestyles that constitute a constellation of the clinical presentation of the disorder. These phenomena can also be the result of possible self-medication with unhealthy food, binge eating and food addiction to problematic food (e.g. sugar). This would especially be the case when the poor diet is combined with a sedentary lifestyle. Surprisingly, those with high ADHD symptoms from our sample reported more physical activity and less TV watching than we expected, as well as less computer gaming. We did not ask about other games such as console systems or games on their

cell phones which may be a limitation into looking at the electronic gaming factor in this day and age. The rate of consumption of sugary food was very high when compared with the groups without symptoms or low symptoms which was something that we had expected.

Insomnia and daytime fatigue were both statistically relevant results found in the high symptom group. This is consistent with previous research on the subject. For instance, a study conducted by Rogers et al. (2017) looked at diagnosed adults with ADHD and found that within the group 62% suffered from fatigue or daytime sleepiness, often in connection to insomnia. For the purpose of this study we did not take into account psychiatric drugs or sleep medication but this could have an effect on the result. In a previous study on ADHD and insomnia it was found that approximately 67% of the ADHD group suffered from insomnia compared to 20% of the non-ADHD control group. Paradoxically, those taking stimulant prescription drugs for ADHD had lower rates of insomnia than the non-medicated individuals with the disorder (Brevik et al., 2017).

In a recent study by Heijer et al. (2017) sports and physical exercise have been consistently found to improve the outcome of the disorder in both children and adults. This was rated in terms of lowering symptoms and overall better health and quality of life. In our study, those that reported regular physical activity also had higher rates of ADHD symptoms which is something that needs to be further investigated. As this is a cross-sectional study we might conclude that people with stronger ADHD symptoms or ADHD traits tend to exercise more but we do not know if they took the questionnaire prior to or after exercising. An extensive literature review found that cardiovascular exercise such as running or team sports have the most benefit for those with ADHD, other types of exercise such as weight lifting had a protective and beneficial effect in terms of symptoms as well (Halperin, 2011).

One of the most surprising results of our study were the lower rates of nicotine use such as cigarette smoking among those with higher ASRS scores. It should be noted that most of the research and literature on ADHD and nicotinism focuses on individuals diagnosed with the disorder and their smoking/nicotine intake rates (i.e. Nigg, 2013). Researchers have found nicotine to have a beneficial effect in those with ADHD. Examples of the benefits include reducing ADHD symptoms such as inattentiveness and higher rates of concentration (Poltavski, 2004). This is a finding that could possibly explain the lower correlation with nicotine use and high symptoms in our study.

Nicotine could be helpful in reducing the symptoms and be used as a form of self-medication in those with the condition. A study looking at nicotine and its implications in lowering symptoms of ADHD found that it lowered ADHD symptoms by up to 9% in both nicotine naive individuals and regular smokers (Gehricke et al., 2009). This association is surely to be controversial and one that needs further investigation as it could play an important role in the neurological factors associated with ADHD. The finding also has implications in the clinical realm. Harm reduction approaches for clinicians could be a valid option when dealing with individuals with ADHD who use nicotine and describe improvement in their symptoms from it. This harm reduction approach can be as simple as advising patients to switch from cigarettes to other forms of nicotine containing products such as nicotine gums or electronic cigarettes.

When we look at the section regarding the consumption of illicit substances, we found high levels of cannabis use and surprisingly higher levels of experimentation with solvents in those with high rates of symptoms. The high rates of cannabis use was not surprising and has been very well known with the ADHD population. It was more surprising to find lower levels cocaine use among the high symptom group in our sample. Cocaine addiction along with nicotine are the most common dependencies seen in those with ADHD (Estevez et al., 2013. Nigg, 2013. Vonmoos et al., 2016). It is possible that the reason for the lower rates of cocaine use and addiction in our sample is due to the lower availability of the drug in the Czech Republic and its high prices compared to Western European countries or the United States.

Overall, we believe the negative lifestyle habits associated with high intensity symptoms should be well noted among clinicians to get a better holistic picture of the patients they have in front of them. Questions regarding these lifestyles may prove useful along with other screeners and assessments especially when there are strong issues in the patient with classical symptoms of ADHD like inattentiveness and/or hyperactive impulsiveness. This can also have the strong advantage of preventing misdiagnosis, especially in cases of issues like substance abuse or problems in self-control. Due to Adult ADHD being a recognized condition in the DSM 5 it is very important that physicians and psychologists be aware of what a presentation of adult ADHD can look like in real life. In terms of questioning the client/patient the implications of the study could help veer the questions in a helpful direction for instance, asking about impulsive eating and bingeing to appease an impulsive need or self-medicate may be a red flag, certainly not enough to entail ADHD but one to further

investigate. Furthermore focusing on lifestyles within the clinical setting could also help veer the therapeutic in a more productive direction. For instance if a client is complaining about inattentiveness and has an impulse to constantly check his/her phone or eat sweets it could be helpful to use cognitive-behavioral therapy (CBT) along with drug therapy to improve the person's quality of life. For instance Coelho et al. (2017) found that in Brazilian teenagers with ADHD the best outcomes for treatment were methylphenidate administration along with group CBT sessions. The group therapy helped the people adhere to their therapy and discuss issues where they had the most difficulties in, these often included impulse control and other issues regarding behavior in public. The researchers referred to these issues as “peripheral” symptoms, they were often related to lifestyles and social settings. Other examples of reinforcing certain behaviors in lifestyles can be to encourage the patients to exercise on a weekly schedule, this could be done through CBT or other types of psychotherapy.

There were some limitations regarding the methodology of the study that must be noted. First and foremost this was a study that used a cross-sectional design to assess the lifestyles and symptoms of the participants. We don't have the possibility of knowing whether they were very different from the past or what the outcome of these conditions will be. We also have to take into account that this was done through a questionnaire and we cannot be sure of the honesty of the participants in their responses. Since our age range was quite wide (ages 18-60) STEM/MARK had to use a different methodology on the older adults who are less likely to have Internet access. Those answering via phone interview had the risk of possibly trying to sound better than they actually are. It must be noted that those doing the survey online had more of a sense of anonymity than those speaking on the phone, despite the absolute guarantee of privacy in both cases. On the other hand those doing the questionnaire online do not have the advantage of asking for clarifications on the questions and may answer them incorrectly due to not understanding them. Overall we believe that the limitations did not have a major impact on the study and that clinicians and those in the field will find the contents of the study valuable to their practice.

It must also be noted that for the purpose of this study we did not take into account ADHD diagnosis, nor did we use the Wender Utah Report Scale (WURS) on childhood ADHD symptoms for this study. We tried to be impartial and only focus on adult ADHD symptoms. The questions of connecting child and adult ADHD symptoms were asked and will be used in the future for research regarding the incidence of ADHD

in the country as well as comparative studies regarding the comparing of intensity of symptoms versus diagnosis. One of the limitations of our study the influence of ADHD drugs and their effect on symptom intensity and possibly on lifestyles. The drugs tend to have protective factors both in neurological effects as well as in abstaining from addictive substances such as cocaine and nicotine. The major point of the study though of investigating and correlating lifestyles and ADHD symptom intensity within the general population has been a very interesting one, and one that we hope will inspire more studies and add to the knowledge of adult-onset ADHD and how to best address this condition.

6. Conclusions

Adult ADHD symptomatology is associated with a very distinct variety of lifestyles that can give good hints of the presence of the disorder. This is important to note as it can be more difficult to see in adults as they are independent and we cannot rely on assessments of parents or teachers. Having the disorder can lead to substantially lower quality of life and myriad of poor health outcomes. Examples of these include obesity from impulsive eating and poor diet, substance abuse (i.e. nicotine, cocaine addiction), higher proneness to accidents including automobile accidents and higher mortality rates compared to the general population (Nigg, 2013). Although it is far more common in childhood than adulthood in terms of diagnosis there are many questions that need to be answered regarding its adult form, as its presentation can be more difficult to spot than in children. Furthermore the mechanisms of remission versus carryover also need more elucidation (Agnew-Blais et al., 2016. Barkley, 2016). At times the disorder is seen as spontaneous in adulthood without any previous history which is paradoxical. The rates of children carrying the disorder onto adulthood can be as low as 16% (Caye et al., 2016).

In terms of adult ADHD we leave the question open as to how much the lifestyles constitute the core aspects of the disorder. In reviewing the literature we found that the disorder is associated with a wide variety of lifestyles that many would categorize as hedonistic and focused on “living for today” or focusing on the present without much care for the consequences of their actions. To elucidate, many individuals with the disorder are seeking pleasure and self-medicating with food, drugs, video games or other addictive behavior (Weissenberger et al., 2016). In regards to treatment

options we acknowledge that options are limited for adults with ADHD in Europe (Ginsberg et al., 2014. Retz et al., 2011). Therefore it is important to raise awareness of the condition.

In our study there were correlations with self-reported unhealthy lifestyles as well as higher rates of cannabis use and experimentation with other drugs. Many of the reports were in line with the poor health outcomes noted by Nigg (2013) as well as our expectations. Frequent snacking on sugary foods and fast food were reported in those with higher symptoms, as well as an aware adherence to unhealthy lifestyles. Cannabis use was noted in those with the disorder as well as an unexpected amount of experimentation with substances not classically used for abuse but for paint and household such as paint thinner and other solvents.

As we did not use diagnosis but only symptoms assessed by the standardized test ASRS v. 1.1 we cannot be certain that those who scored high in symptoms are certain to have the disorder. We can assess that the symptoms we recorded were in line with the percentages of expected individuals with the disorder among the general population.

We believe that assessing lifestyles can be a valuable tool for clinicians as a hint for more inquiry regarding ADHD in adults. We furthermore would like to point out the importance of the European mental health establishments such as the one found in the Czech Republic to understand that adult ADHD can appear independently of childhood ADHD and that many with adult ADHD symptoms may be suffering and going untreated as there seems to be a lack of information and acknowledgment of the disorder within the European Union. This makes access to treatment and medication for adults very difficult (Ginsberg et al., 2014). In the spirit of raising quality of life and keeping the honor high for the field of psychiatry and psychology I recommend that Czech clinicians take into account our work.

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Conferences:

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Weissenberger, S. (2017). The Bystander Effect and crisis situations. Narodni Istitut pro obranu a bezpečnost security conference. Ostrava, Czech Republic.

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Research Projects:

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