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The influences of personality traits on the perception of the terror in Israel and the substance use of young Israelis.



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Abstract:

The purpose of this study was to find a relation between the terror the Israeli citizens are being exposed to and their substance use. Further possible protecting factors of their personality were investigated. A cross-sectional survey was taken in Israel where several constructs were tested: the participant's exposure to terror, the perceived stress they experienced, their substance use and two of their personality traits (Positive/Negative Affect and Sensation Seeking).

Results revealed a positive correlation between the age of the participant and their substance use, there was a strong positive correlation between gender and the perceived stress level and a positive correlation between the overall exposure to terror and perceived stress. However, no effect was found about a mediating or moderating effect of the personality, or about an overall correlation between the three factors exposure to terror, substance use and personality.

Keywords: Resilience; Exposure to Terror; Sensation Seeking; Positive/Negative Affect; Substance Use

Abstract (NL):

Het doel van dit onderzoek was het vaststellen van de invloeden van de factor resilience (i.e. persoonlijkheidskenmerken) op de Israëlische terreur/middelengebruik correlatie. Er werd een cross-sectional onderzoek in Israël doorgevoerd. De proefpersonen werden gevraagd over hun blootstelling aan terreur, hun waargenomen stress die ze ervaren vanwege deze blootstelling en vragen over hun persoonlijkheid (met name positieve/negatieve affect en sensation seeking). De uitkomst van dit onderzoek liet zien dat er significante correlaties waren tussen zowel leeftijd en middelen gebruik, tussen geslacht en de waargenomen stress en tussen de blootstelling aan terreur en de waargenomen stress. Echter was er geen mediator of moderator effect van de persoonlijkheid. Ook een overall correlatie tussen de drie factoren "blootstelling aan terreur", "middelengebruik" en "persoonlijkheid" werd niet gevonden.

1. Background:

Even though Israel is one of the smaller countries in the world with a surface area of about 20.770 km² and just 6.2 million inhabitants, it is mentioned in the media almost every day. There are reports about terror attacks in which since the year 2000 more than 1000 people were killed and roughly 7000 injured. This means that about 1 percent of the population has been exposed to a terror attack. Living in a country where you are directly or indirectly exposed to terror every day (through media, family/friends or the army, where every Israeli citizen of 18 years has to serve for 2-3 years), is likely to stress you in a chronic way. A recent nationally representative telephone-based survey of Israeli residents (Bleich, Gelkopf, & Solomon, 2003) did research on “Exposure to Terrorism, Stress-Related Mental Health Symptoms, and Coping Behaviors among a Nationally Representative Sample in Israel”. A terrorist attack was here defined as “any armed attack by a self-proclaimed terrorist group, as categorized by the IDF” and exposure was defined as “in the last 1,5 years, [participant had] been exposed to a terrorist attack, friend or family member had been exposed to an attack, [participants] friend or family member was injured or died in the attack”. In total, 16% of the respondents of this research had been personally involved in a terrorist attack, 22% had a friend or family member wounded or killed and 15% knew someone who survived an attack without injury. About 60% of the respondents reported to feel that their lives were in danger and even 68% felt that the lives of their friend and family were in danger.

Earlier research indicated that exposure to stress and having so-called “daily hassles” it can happen that younger people start experimenting with drugs (Keller, et al., 2006) (“Daily hassles refer to everyday events that people experience as harmful, threatening, or annoying”, for example “Health of a family member”).

Daily hassles occurring because of the conflict with the neighboring Palestinian people and Arab countries also influence the relationship with your partner – stress results in a greater distance between your intimate partners (Lavee & Ben-Ari, 2008) which sounds less dramatic than getting a PTSS, but still leads to a daily amount of stress.

Experimental substance use (ESU) or onset of substance use is expected to be a positional benefit in order to cope with stress or get social approval. Kumpfer and Tumer (1990-1991) made a social ecology model where they stated that the underlying cause of ESU is indeed stress in general [and school-related stress in particular]. As found in their research, adolescents who find school to be stressful or unpleasant, are likely to “withdraw from school-related activities, seek out deviant peers as way of escaping stress and, consequently, be rewarded for Experimental Substance Use” (Petraitis, et al., 1995). Even though this study is about adolescents only, we can conclude that the same applies for our target group.

There have also been studies indicating that after a terror attack, the use of drugs increases (Vlahow, et al., 2002). In this research, concentrating on the residents of Manhattan, New York, randomly chosen 5-8 weeks after the terroristic attack on 9/11, 3% reported an increase in marijuana use and 29% reported an increase in use of any of the three substances marijuana, alcohol or smoking.

However, these research results have to be used carefully, because there was no comparison between different time frames for assessment, different measures of substance use, or a predominant focus on direct survivors.

The residents were on heightened alert about terror when the study was taken, there had been a discovery of anthrax in the city and the residents were concerned about possible further terroristic attacks.

Another research on this subject has also found that stress symptoms after a terroristic attack tend to be very high (Schuster, 2001).

Obviously, somebody being killed by a sudden terroristic attack is one of the worst things most people can imagine. However, a consequence less evident, but still very disturbing and lasting, is to witness or survive violence and live in a country with a protracted conflict between Israelis and Palestinians. There are a lot of psychological consequences of violence, e.g. PTSS or depression. So the numbers of dead or physically injured persons mentioned above is only the tip of the iceberg – the number of victims being hurt not physically but psychologically may be much bigger, but also much harder to count (Salinas, 2007).

Bearing this in mind, it seems surprising that Israel, in comparison to other European countries like France, is a “low-consumption” country. That means that at least in 1981, Israel had one of the lowest rates of alcoholism and per capita consumption of alcohol in the Western world; France by comparison had one of the highest rates, even though there was no significant difference in use/not-use due to religion (Kandel, et al., 1981).

Other more recent researchers found that lifetime abstention for both genders were highest in Israel (between 18 and 40 years) [and lowest in the Czech Republic]. General abstention rates were found to be highest in “prototypical wet countries such as France and Switzerland, but also in Norway, the US, and Israel” (Bloomfield, et al., 2003).

Another research revealed that the per-capita total consumption of alcohol in Israel is lower than in the other countries measured in that study, like for example the United States. That research also states that heavy drinking and alcohol problems are relatively uncommon, however, in contradiction to the study mentioned above, it says that lifetime abstinence is rare in Israel. That study used a sample containing only males, because Israeli women seem to have very low consumption rates of drinking (Shmulewitz, et al., 2010). Even though this study contains alcohol use only, we expect to find several results for other substances.

Additionally, the study by Bleich, Gelkopf and Solomon (2003) revealed that distress has only a moderate emotional impact on Israelis. The study was taken after 19 months of steadily increasing terrorist attacks all over the country and the population being exposed to the terror also through the media. The study revealed several Stress-Related Mental Health Symptoms (in the order of frequency): avoidance/numbing, hyper arousal symptoms, re-experiencing trauma-related scenes, dissociative symptoms such as being distressed or impairment of social functioning, and feeling (very) depressed or gloomy. However, no significant associations were found between objective threat (i.e. high or low residency risk, urban or nonurban, Jewish or Arab population) or exposure levels, and number of TSR or PTSD symptoms or feeling depressed. There was also no significant association found between objective threat, exposure levels and future orientation, or sense of personal safety. Similarly, no significant association was found between objective threat, level of exposure, and being in treatment, nor was there a significant association between objective threat and any dependent variables. The only significant association was found between the level of exposure and the sense of safety for family and friends in the way that the level of exposure reduced the sense of safety for family or friends (Bleich, et al., 2003).

At this high level of exposure (both direct and indirect) a much higher distress would have been expected (Bleich, et al., 2003). This leads us to the following question: Why is there no higher distress and what is the reason the alcohol use among the Israeli population is so low?

When starting with this bachelor thesis, the factor „resilience“ was one of the factors we wanted to observe. This construct has received more and more attention throughout the last years. Since the goal of our research is to find reasons for the low amount of substance use by the Israelis, resilience seemed a relevant factor.

According to “The Construct of Resilience: A Critical Evaluation and Guidelines for Future Work (Luthar, et al., 2003) ambiguities of the term “resilience” have hindered acceptance of this concept in the scientific community in the past.

The definition Luthar suggested included factors such as [personality factors, healthy family milieus, high support from extended family, social setting] that enable people to remain positive and robust, even in cases of traumatic life events. In other literature, the demographic characteristics like sex, education level, and income level were found to explain about 11 percent of the factor resilience (Campbell-Sills, et al., 2009).

A relevant definition of resilience is given in the article “Adolescent resilience: a concept analysis” (Olsson, et al., 2003). They argue that resilience can be seen as “normal development under difficult conditions”. Resilience is a dynamic process where risk and protective processes interact both internally and externally with an individual. Protective factors are likely to lay a positive chain reaction “leading to favorable developmental outcomes”, for example “a positive temperament increases the likelihood of eliciting a positive response from others early in development. A positive temperament may well be a seminal resilience promoting factor, having developmental resonance across the life span”. Aside from a positive temperament, there are several other personal attributes working as a protective mechanism, which are: tolerance for negative affect, self efficacy, self esteem, foundational sense of self, internal locus of control, hopefulness, strategies to deal with stress, sense of humor, enduring set of values, balances perspective on experience, malleable and flexible, fortitude, conviction, tenacity, and resolve (Olsson, et al., 2003). There are also other protective mechanisms defined in that article, such as intelligence (for example planning and decision making), communication skills (for example developed language), family level resources (for example close relationship with a caring adult, talent or hobby valued by others, non-blaming), school experiences (for example supportive peers) and the socio-economic status (for example monthly income).

However for this study, the whole construct resilience including all the factors mentioned above could not be measured. Instead, the focus of this research is on the personality factors of resilience only. In order to avoid confusion, we will therefore avoid actually using the term “resilience”, even though it is partly reflected in these personality factors. To be more specific, our research will be based on resilience, but we will only use the internal factors of resilience, hence excluding the external factors like the mentioned above family milieus, social setting, etc.

Several studies have examined the stress-related mental health symptoms and coping behaviors following the experience of a terrorist act (Bleich, et al., 2002). However, there has not yet been a study linking the aspects of the overall influence of stress due to terror, the potential buffering factors of personality traits (that means that even

though you experience the same amount of stress, the positive factor personality/resilience “protects” you from an unhealthy coping style (i.e. substance use)) and potential substance abuse of Israelis.

The first aim of this study is to find out whether there really is a correlation between the exposure to terror and substance use and in how far this correlation is being mediated by stress. If this correlation is indeed being mediated by stress; our second goal is to see how this is influenced by the moderating role of personality traits. We here decided to concentrate on the two factors described as follows:

Sensation seeking (SS) - Sensation seeking is a trait characterized by the willingness to take risks for the sake of varied, novel, and intense experiences. It is highly correlated with alcohol or substance use as an elevated and problematic use pattern, risky motivation for substance use and sensitivity to different types of reinforcement from alcohol and other drugs of abuse (Woicik, et al., 2009; Conrod, 2007). SS influences substance use via a positive route. That means that drugs are used as a reward and for positive affects. Also, sensation seeking works as a so-called ‘lower-order trait’ to the ‘higher-order traits’ of the Big Five factors neuroticism, agreeableness and conscientiousness. . This means that SS does not necessarily directly lead to substance use, but is related to the personality traits, which then influence the willingness of taking drugs. Also, several longitudinal studies have found that sensation seeking can be linked to ESU (Petratis, et al., 1995).

Affect (positive or negative): In psychology, affect refers to an emotion or a feeling that has been experienced subjectively. Positive affects are enjoyment and interest or excitement, while negative affect is expressions such as fear, shame, distress or anger (Brehm, et al., 2005). Positive affect may lead to heightened success and greater resources, and is basically the hallmark of well-being and happiness. Hence, there is a correlation between happiness and favorable life circumstances – positive affect creates more favorable life circumstances and therefore indirectly leads to happiness. Positive moods and emotions bring individuals to think, feel and act in certain ways which promote resource building and involvement with approach goals (Lyubomirsky, et al., 2005). Individuals having a positive personality are less inclined to drug experimentation (Seligmann, 2002).

Negative affect is positively correlated with alcohol or substance use (i.e. if an individual scores high on negative affect, he is more likely to use alcohol or substances). Negative affective is relieved by negative reinforcement through some substances (Woicik, et al., 2009).

The second aim of the present study is to outline the influence of the personality factors which influence the Israelis who are prone to substance use. It can be assumed that, if Israelis have specific personality traits (here low SS and high PA), they are less inclined to use substances, even if they have been confronted with terrorism. In order to give a clear view of our hypothesis, a model has been created to illustrate the ideas.

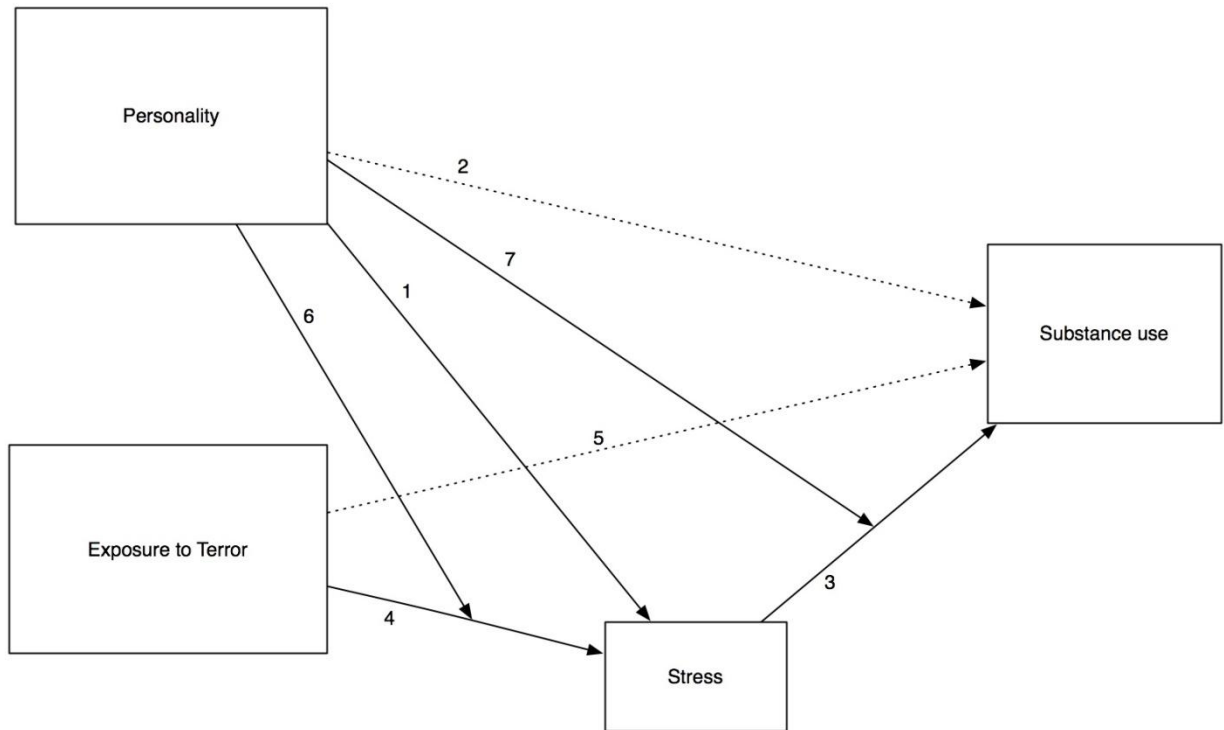


Figure 1: This figure demonstrates the given hypotheses, i.e. the possible correlations between the constructs personality, exposure to terror, stress, and substance use. A continuous line stands for a possible direct correlation; a dashed line stands for a possible indirect correlation

This research project lines out the relationship between the psychological determinants (personality), the terror-amount the individual has been exposed to and the behavior of substance-use/abuse. As seen in the model, it is expected that personality (in our questionnaires measured as Sensation Seeking and Positive/Negative Affect) and Exposure to Terror increase the stress an individual experiences which therefore can lead to substance use. We further assume that the optimal composition of personality characteristics can prevent a high level of stress (due to exposure to terror) and can also protect the individual from letting the stress cause substance use (see resilience mentioned above). Thus we have made the following hypotheses:

1. High Sensation Seeking and High Negative Affect increase Stress
2. Low Sensation Seeking and High Positive Affect protects from Substance use
3. High Stress increases Substance use
4. High Exposure to Terror increases Stress
5. High Exposure to Terror increases Substance Use
6. Sensation Seeking and Positive Affect moderate the effect of high exposure to terror on stress (low on SS and high on PA means a less stronger correlation)
7. Sensation Seeking and Positive Affect moderate the effect of high Stress to increasing Substance use (low on SS and high on PA means a less stronger correlation)

2. Methods:

2.1 Instruments

A cross-sectional study was made. We used one written questionnaire, containing demographic questions (year of birth, gender, years of education, native country) and questions from 5 different tests, listed below. These tests are as follows:

ISS - Sensation Seeking Scale (Impulsive Sensation Seeking Zuckerman-Kahlman, 1993)

PANAS – Positive and Negative Affect Schedule (Watson, Clark, and Tellegen, 1988)

I-FFS Israeli Fear Survey Schedule (Wolpe, Lang)

PLE Political Life Events Scale (Slone, Durrheim, 1998)

DAST – Drug Abuse Screening Test (Gavin, Ross, Skinner, 1989)

Table 1

Cronbach's Alpha of the tests in our study

Test	Cronbach's Alpha
Positive and Negative Affect Schedule	.64
Impulsive Sensation Seeking Scale	.80
Israeli Fear Survey Schedule	.73
Political Life Events Scale (Exposure)	.83
Political Life Events Scale (Appraisal)	.83
Drug Abuse Screening Test	.85

N=56

The first four tests were taken from the Israeli Henrietta Szold Institution in Jerusalem and were therefore already translated into Hebrew. The DAST was translated from English into Hebrew by a native speaker and retranslated to ensure the correctness of the translation.

The PANAS and the Sensation Seeking Scale (ISS) were merged into one construct that we call “Substance Use Prone Construct”. They were used to get an overview of the personality of the respondents so that later we would be able to determine if these personality factors (i.e. high SS and high NA) indeed support the willingness of substance use. Due to the fact that the PANAS is a one-dimensional dependent questionnaire, we excluded the questions about Positive Affect, and only used the questions about Negative Affect for our analyses.

The PANAS measures the personality traits Positive Affect and Negative Affect. The PANAS is a reliable and valid measure of the constructs it was intended to assess (Crawford & Henry, 2004). It is a 4-point scale containing 23 items, where different feelings are being measured from 0 (I never have these feelings) to 4 (I always have these

feelings). It uses single words like for example “scary”, “sad” (signs for a high NA) or “friendly” (sign for a high PA).

The ISS has a high validity (Zuckermann, 2007) and is still used today. It contains 19 statements, which have to be judged as “True” or “False”. Examples are “I tend to begin a new job without much advance planning on how I will do it” (which is, if the respondent says “True”, a sign for a high SS-personality) or “Before I begin a complicated job, I make careful plans” (which is, if the respondent says “True”, a sign for a low SS-personality).

The I-FFS Israeli Fear Survey Schedule was used to investigate to which amount the respondents interpreted the terror in Israel as a fear-inducing and threatening situation.

It contains 25 items; however we only used the items measuring the fear of threatening situations. These are 7 questions, asking about the feeling when the respondent thinks about a certain situation. They were measured with a 5-point scale, scoring from 1 (not uncomfortable) to 5 (feeling very uncomfortable), with items like “sleeping in a place in the surroundings of the border” or “hearing an alarm siren”.

The PLE was used to measure in which manor the respondents were exposed to the terror in Israel.

Being exposed to a terrorist incident (directly or indirectly through family or friends) obviously creates stress. When the respondents still score low on factors like anxiety, even though they have been exposed to terror, this might indicate resilience (Bleich, Gelkopf, Melamed, & Solomon, 2006).

As in the previous case, there was no data about this test’s validity available in English. The questionnaire actually measures two different data points at once. First, there were 19 statements about certain experiences and the respondent had to state whether he had to undergo this experience. If he had indeed experienced it, he had to decide to which amount he had been scared by this (on a 5-point Likert scale with 1 = absolutely not and 5 = very much). Examples are “I already had to stay at a shelter”; “I have been in a situation where a suspicious subject had been checked” or “Death of a family member due to a political-violent activity”.

Finally, the questions of the DAST were used to see whether the respondents had used substances, and to which amount. As mentioned above, there are several factors that can support a person’s willingness to take substances. The validity of this test is high (Martino, Griloa, & Fehon, 2000). One negative aspect of the DAST is that the respondents can interpret the word “drug” for only hard drugs and not for soft drugs, since it excludes alcohol abuse (but includes for example the soft drug marijuana).

The questionnaire contains 20 items with questions that had to be answered with “Yes” or “No”. Examples are “Have you used drugs other than those required for medical reason?”, “Have you been in trouble at work because of your use of drugs?” or “Do you abuse more than one drug at a time?”.

We used older versions of the tests in order to get a questionnaire that could be filled in in the respondent’s native language – at the Henrietta Szold Institute in Jerusalem there was only a limited choice of tests available in Hebrew.

Scores on the PANAS and ISS were dichotomized with a median split to enable analyzes of correlations, mediaton and moderation, and subsequently summed to a Substance Use Prone personality (SUPP) construct (i.e. high Negative Affect plus high Sensation Seeking)

Sum scores were also made for the following constructs:

“Exposure to Terror” (i.e. PLE exposure subscale sum score), “Stress” (PLE appraisal subscale sum score, plus I-FSS sum score) and “Substance Use” (sum score of the DAST).

2.2 Procedure/Sampling

The questionnaires were handed out to 150 Israelis in between November 2009 and April 2010. Our participants were between 18 and 30 years old. The respondents were between 18 years and 30 years. Out of these respondents, 44% were born between 1992-1994 (24 persons), 33% were born between 1988-1991 (18 persons) and the rest was born between 1980-1987 (8 persons being born between 1980-1983 and 5 persons being born between 1984-1987). 57% (31 persons) were female, 43% (23 persons) were male (with two missing variables).

The respondents came mainly from Israel (83%, i.e. 47 out of 56 persons); only 14% (i.e. 8 persons) came from other countries like Latvia, Russia or Germany. During this research, all of the respondents lived in Israel.

The years of study ranged from 10 to 16 years. 34 persons had studied 10-12 years (62%) and 21 persons (38%) studied 13-16 years. One person did not give any information about his/her years of study.

80 questionnaires were brought to a school near Naharija and a school in the Kibbutz Ma’abarot, 50 were handed out to an army base in Tel Aviv and 20 were randomly handed out in the neighborhood of Sha’ve Zijon and the surrounding. Due to the fact that the questionnaires were quite comprehensive, the respondents could take them home and were asked to give them either to their teacher/supervisor who sent them back to the Netherlands, or to other contacts in Israel. However, we still took care that the questionnaires were handled anonymously. The respondents were informed that all the data would only be used by us and exclusively used for this bachelor project. The teachers are used to hand out questionnaires and made sure that they did not see the answers of the students (by putting them in an envelope). Also, the respondents got a contact address for possible questions or if they were interested in the results of the project. Until now, there have been no reactions.

Our response rate was 36%, thus we got back 56 out of 150 questionnaires.

2.3 Statistical analyses

First, we performed separate reliability analyses for each questionnaire. After deleting and recoding several items, Cronbach's Alpha of all the tests increased (see above). The PANAS was not recoded, but split into one Positive Affect sum score and one Negative Affect sum score. In both conditions, a "Yes" was coded as a 1 and a "No" was coded as a 0. As earlier said, only the Negative Affect sum score was used for our analyses.

The ISS was recoded so that with every item a 1 stood for high SS and a 0 for low SS. Items that lowered Cronbach's Alpha were deleted. The I-FSS did not have to be recoded, however, we also deleted one item in order to get a higher Cronbach's Alpha.

The PLE was split into an exposure subscale (1=yes, 2=no) and an appraisal subscale (thus if you had been exposed, how much of an effect it had). For this test as well, we had to delete several items to improve Cronbach's Alpha. Finally, the same procedures were performed for the DAST.

All our significance levels were 2-tailed. Because of the fact that our N was very small, we used Non-parametric tests only.

After the reliability analyses, we continued with correlation analyses for all possible combinations including the demographics to look for significant correlations. For all the significant correlations, we performed either a Mann-Whitney-U Test, or a Kruskal-Wallis test.

We also did each three mediator analyses and three moderator analyses for our hypotheses (Baron & D.A., 1986).

A bivariate correlation was made between all of the sum scores (i.e. Negative Affect sum score, Positive Affect sum score, Sensation Seeking Sum score, Exposure to terror experiences sum score, Exposure to terror appraisal sum score, Political Life Events sum score, substance use sum score, stress sum score, substance use prone personality sum score and Negative Affect sum score group).

For the hypotheses:

1. Exposure to terror is associated with stress, this correlation is being mediated or moderated by a substance use prone personality
2. Stress is associated with substance use, this correlation is being mediated or moderated by a substance use prone personality, and
3. Exposure to terror is associated with substance use, this correlation is being mediated or moderated by stress,

We performed a mediator analysis first, followed by a moderator analysis. The mediator analysis consists of four steps. First we made a linear regression with the dependent variable (in our case stress or substance use) and the independent variable (in our case exposure to terror and stress). Only if the regression-coefficient was significant, we could have had continued. The second step would have been to make a linear regression with the independent variable and the mediator variable. In case there was a significant correlation, step three could be performed, thus a linear regression between the dependent variable and the mediator variable. The last step would have been to make a

linear regression with the mediator variable and the independent variable as the independent variable and with stress or substance use as dependent variable.

The moderator analysis contains 3 steps. First, the independent and the moderator variable had to be centralized. That was made by subtracting the mean from the variables. Then the new predictor independent variable*moderator variable was created. Finally, the regression of the new variables (thus the centralized independent variable, the centralized moderator variable and the interaction variable) on the dependent variable was measured.

3. Results:

3.1. Correlations with the demographics

Gender had a significant effect on the level of stress the respondent's experience. We found that women experience more stress than men ($U=175,500$, $p=.02$).

A significant correlation between age and substance use was found through a bivariate correlation test. We discovered that substance use is highest when the respondent was born between 1984-1987 ($M= 34.7$) and substance use (i.e. the sum score of the DAST) was the lowest when he was born between 1992-1994 ($M= 14.94$, $X^2 (2, N=45) = 15.8$, $p = .01$).

We confirmed that there was no confounding effect between gender, stress and age, by performing a One-Way ANOVA with age as a covariate. There were no significant results ($R^2 = .192$, $p=.13$).

Table 2

Substance Use (sum score of the DAST) in correlation to the years of birth

Year of birth	Number of respondents	Mean Score of the DAST
1980-1983	8	28.88
1984-1987	5	34.70
1988-1991	15	25.10
1992-1994	17	14.94

N=55

There were no significant correlations found between age and stress ($p=.34$), exposure to terror ($p=.11$) and Substance Use Prone Personality ($p=.87$).

The country the respondents were born in had no significant correlation with any of the relevant factors (i.e. stress, substance use, exposure to terror and substance use prone personality), and neither had their years of education.

3.2.1 Sensation Seeking

We tested the Sensation Seeking Scale with a Frequencies Analysis. Remarkable items are "New jobs without planning" and "think before doing", where 66.7 and even 79.6% of the respondents reported that this statement was untrue. The items "New and Exciting Experiences" (72.2% said this statement is true for them), "thrill" (74.1% rate this statement as untrue) and "Impulsive" (70.4% said this statement is not true for them) were also noticeable. In total 24 of 56 respondents answered more than half of the questions in the affirmative.

3.2.2 Positive Affect/Negative Affect

The PANAS was also tested with a Frequencies Analysis. It was remarkable that all the finally used items range from “Never” to “Always”.

3.2.3 Israeli Fear Survey Scale

The IFSS about fear of terrorism had too few items (after the reliability analysis, the IFS contained 7 items) to be measured individually. As mentioned earlier (see methods), it was used only in combination with the Political Life Events Scale.

3.2.4 Political Life Event Scale: Appraisal Subscale

The participants rated the PLE very differently. However, there were items that all participants rated very similarly. For example the item “safety exercise” was rated as “not stressful” by 43.6% and 29.1% rated it as “slightly stressful”, so 72.7% rated it as a not stressful or only slightly stressful event. Also the item “security check” was rated as “not stressful” by almost half of the respondents (49.2%). The death of an acquaintance however was rated as “(very) stressful” by 85.19% of all participants.

3.2.5 Political Life Events: Exposure Subscale

Out of 56 people, 20 were exposed to more than half of all the scenarios being described. Every single respondent had been exposed to at least two Political Life Events.

3.2.6 Substance Abuse

Out of 56 respondents, 18 reported to have already used drugs. However, out of the 56 respondents, 11 did not answer the questions about the substance abuse (without giving any reason) and were therefore excluded from all tests including the factor substance use.

3.3 Correlations between the constructs

With the bivariate correlation analysis we received several results. Obviously, there was a strong negative correlation between Positive Affect and Negative Affect ($p=.01$). There was a positive correlation between Positive Affect and Sensation Seeking ($p=.03$). Of course, there were strong correlations between Negative Affect and Substance Use Prone Personality ($p=.00$) and Sensation Seeking and Substance Use Prone Personality ($p=.02$). Surprisingly, there was no significant correlation between Sensation Seeking and Negative Affect. Also obviously, there was a strong correlation between Political Life Events Appraisal Sum score and stress sum score ($p=.00$) and Israeli Fear Survey and Stress sum score ($p=.00$) (see Table 3). As the stress sum score is defined as a combination of the Political Life Events appraisal subscale and the Israeli Fear Survey scale and the Political Life Events appraisal subscale and the Israeli Fear Survey are two constructs measuring the same subject, this is no surprise. It confirms that our construct “Stress” is a good representation of the two scales.

Table 3
Pearson Correlation of the sum scores of the constructs described above

	PA	NA	SS	SUPP	PLE-Appraisal	IFSS	Stress	Substance Use
PA	1							
NA		1						
SS			1					
SUPP				1				
PLE-Appraisal					1			
IFSS						1		
Stress							1	
Substance Use								1

PA=Positive Affect sum score, NA=Negative Affect sum score, SS=Sensation Seeking sum score, SUPP=Substance Use Prone Personality sum score, PLE-Appraisal=Political Life Events Appraisal sum score, IFSS=Israeli Fear Survey Scale sum score, Stress=PLE-Appraisal sum score + IFSS sum score, Substance Use=DAST sum score

With a bivariate correlation analysis it was found that exposure to terror and stress are significantly correlated ($p=.00$), Pearson Correlation .80). If the respondents were scoring high on exposure to terror, they also scored higher on stress being produced through exposure to terror (we got this result with the Wilcoxon Signed Rank Test: ($Z:-6.2$, $p=.00$).

We also made correlation analyses between all the constructs stress, exposure to terror, substance use prone personality, and substance use. There were no significant correlations found.

3.4 Mediator/Moderator

The mediator analysis was performed for the following three hypotheses:

1. Exposure to terror is associated with stress, this correlation is being mediated by a substance use prone personality
2. Stress is associated with substance use, this correlation is being mediated by a substance use prone personality, and
3. Exposure to terror is associated with substance use, this correlation is being mediated by stress,

1. We ran a mediation analysis with PLE-Exposure as a predictor variable and stress as dependent variable ($\beta=.80$, $p=.00$). For the second step we used Substance Use Prone Personality as a predictor variable and PLE-Exposure as dependent variable ($\beta=.05$, $p=.73$). No mediator effect for Substance Use Prone Personality in correlation with Exposure to terror and Stress could be found.

2. We ran a mediation analysis with Stress as a predictor variable and Substance Use as dependent variable ($\beta=.11$, $p=.48$). No mediator effect for Substance Use Prone Personality in correlation with stress and substance use could be found.

3. We ran a mediation analysis with PLE-Exposure as a predictor variable and Substance Use as dependent variable ($\beta=.19$, $p=.21$). There was no mediator effect found for stress in correlation with exposure to terror and substance use.

Table 4
Mediator Analysis for the three hypotheses mentioned above

independent variable/dependent variable	Significance	Beta
SUPP in correlation with PLE-exposure	.73	.05
Stress in correlation with substance use	.48	.11
PLE-exposure in correlation with substance use	.21	.19

N=56

For the same constructs, a moderator analysis was performed for the following hypotheses:

1. Exposure to terror is associated with stress, this correlation is being moderated by a substance use prone personality
2. Stress is associated with substance use, this correlation is being moderated by a substance use prone personality, and
3. Exposure to terror is associated with substance use, this correlation is being moderated by stress,

For each of these constructs a moderator analysis was calculated, however, no moderator effects were found.

Table 5
Moderator Analysis for the three hypotheses mentioned above

Hypothesis	T of the moderator effect	Significance of the moderator effect
1	-.37	.71
2	2.5	.02
3	1.1	.28

N=56

The hypothesis 1 (High Sensation Seeking and High Negative Affect increase Stress) could not be confirmed. This means that in our study there was no evidence that the personality traits sensation seeking and negative affect indeed affect your perception of stress, contrary to claims in the literature (Lyubomirsky et al., 2005).

The hypothesis 2 (Low Sensation Seeking and High Positive Affect protects from Substance use) was not confirmed. That means that in our research it is not proven that our defined positive personality traits have any influence on substance use, even though there have been studies where this was confirmed (Keller, et al., 2006).

The hypothesis 3 (High Stress increases Substance use) was not confirmed. We did not find any proof that a higher stress level resulting from exposure to terror leads our participants to use more substances.

The hypothesis 4 (High Exposure to Terror increases Stress) could be confirmed (see below).

The hypothesis 5 (High Exposure to Terror increases Substance Use) was not confirmed. We did not find any evidence that when you are more strongly exposed to terror, you are more likely to use substances.

There was neither a mediator, nor a moderator effect found for the hypotheses 6 and 7 (Sensation Seeking and Positive Affect moderate the effect of high exposure to terror on stress and for Sensation Seeking and Positive Affect moderate the effect of high Stress to increasing Substance use). That means that there is no overall correlation between the personality traits Positive/Negative Affect and Sensation Seeking, the stress resulting from exposure to terror and the use of substances.

4. Discussion/Limitations:

In this chapter, the results and significant findings of the study will be discussed.

4.1 Discussion

The result that women experience more stress than men stands in contradiction to the literature, where current consensus is that in general, women do respond to performance stress in a laboratory setting not at all or only very little. In response to an important real-life stressor (such as an important examination), females do show a significant increase in epinephrine output (thus stress), but still less than men (Lundberg, 2005). However, women are more aware of their body and their feelings. A possible explanation could be that they are not indeed higher stressed, but they simply are more able to identify this stress. When comparing stress levels during and after work, it was also shown that men are able to unwind and relax much faster, while the women's stress levels tend to remain elevated after work as well (Lundberg, et al., 1994).

The fact that stress is also higher when the respondent has been more exposed to terror, speaks for itself. When a person has been more exposed to terror, of course the stress resulting from possible exposure to terror will also be higher.

Also the result that with higher age, the respondents have experienced more with substances can be easily explained, just by the fact that they have had more time to experiment and they have had more opportunities. The questions of the DAST ask predominantly questions about the effects drug have had on you (e.g. "Have you had problems with your parents due to your drug use?"). So when you are older, it is likely that you have had more possibilities to find yourself in such a situation.

Even though we were not able to affirm our hypotheses, we still think that this does not necessarily mean that they have to be abandoned. Several limitations had an influence on our thesis. We are convinced that resilience plays a role in the correlation between substance use and exposure to terror. So even though the chosen constructs of resilience may not play a significant role, with other constructs it should be more significant.

4.2 Limitations

Our research project had several limitations, starting with the questionnaires. Due to the fact that we decided to use only questionnaires in Hebrew, even though we do not speak or read the language, we were dependent on propositions of the Szold Institute and the English translated descriptions of the questionnaires. In retrospect we would have used other tests for our questionnaire, in order to get a better picture of for example the personality.

The DAST was not the ideal questionnaire to get a good impression of the substance use. A better alternative would have been a questionnaire that clearly included binge drinking, smoking and using marijuana (see suggestions). Possibly a questionnaire only measuring alcohol would have been enough as well, as alcohol is the most commonly abused drug, at least in our target group (Whitfield, 2010).

There is a chance that our decision to analyze with constructs instead of analyzing the questionnaires separately could have had an impact on the outcomes. However, our decision was based on the fact that when taking the scales apart, no significant results at all were found.

The low number of respondents is another limitation of this thesis, probably the one having the biggest influence on our results. We expected to get about 100 questionnaires answered. Of course with 56 respondents, it is difficult to get a broad picture, especially when out of the 56, only 45 filled in the questions about substance use. Maybe the 56 respondents were too similar and not heterogeneous enough, or they were too heterogeneous. The environment of for example Shave'Zijon is quite calm and small, so the people living there are less likely to experience major political life events than people living in Tel Aviv, Jerusalem, Haifa, or other bigger cities in Israel. Even though we had participants from Tel Aviv, the number may have been too small ($n=10$). Also the fact that one group of respondents lived in a kibbutz ($n=24$) could have had an influence. Kibbutzim are known for their strong company. Several generations of one family live close to each other, so from childhood on, the members of a kibbutz receive support from the whole community, which is likely to support the external factors of resilience, which were not measured in the present study. It is proven that many kibbutzim show a degree of resilience (Near, 1994); even though the difference is lower at women (Walter-Ginzburg, et al., 2004). Research about dealing with the death of a father has showed that in comparison to urban settings, children from a kibbutz show a different reaction on this event with less influences on their lives (Kaffmann & Elizur, 2006). Another possible influence could have been that the respondents wanted to be "socially desirable" (i.e. give socially desired answers). A lot of questionnaires have been brought to schools. Even though it was planned that the respondents could fill in the questionnaires at home, it is possible that they compared answers, wanted to please the teacher, or saw what other respondents filled in and just copied it (Furnham, 1986). Maybe the possible habituation of the participants should have been measured. When living in an area of terror for so long, you might find it less disturbing than persons from outside of Israel. In the literature, habituation is discussed to include the construct resilience – habituation might lead to a greater sense of safety, reduced distress, and improved functioning (Bleich, et al., 2006). Generally, it is proven that habituation to a repeated stressor can be predicted by positive interpretation of life events and having high quality support systems (i.e. consistent with resilience-thriving) (Bugental, et al., 2009). What is seen as upsetting in western regions is possibly judged as less upsetting or not upsetting at all in Israel.

Suppression is another factor that we could have used for our research. We do not know to what extent our participants let the terror around them get to them and therefore, to what extent they answered all the given questions truthfully. Suppression is also a possible factor of resilience (i.e. a coping mechanism). However, until now there is not enough research about this topic to be included in our study.

4.3 Suggestions for further research:

For further research about this subject, several adaptations should be made. As mentioned before, the questions about personality only focused on Positive/Negative Affect and Sensation Seeking. The NEO will be an adequate addition, so all the personality traits of the Big Five will be measured (especially Neuroticism and Extraversion are interesting factors in combination with substance use). For further research, the factor resilience should play a bigger role. In this thesis we only focused on some internal factors of resilience. However, the external factors of resilience such as family surrounding should not be ignored and play an even bigger role than the internal factors. For our thesis, including the external factors would have been too broad, but for further research questions about the youth and environment of the respondent, they are likely to yield important insights.

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Appendix

Appendix 1: Questionnaire, see below