



ELSEVIER

Contents lists available at ScienceDirect

Psychiatry Research

journal homepage: www.elsevier.com/locate/psychres

Self-inflicted pain out of boredom

Chantal Nederkoorn^{a,*}, Linda Vancleef^a, Alexandra Wilkenhöner^a, Laurence Claes^b,
Remco C. Havermans^a^a Department of Clinical Psychological Science, Maastricht University, Maastricht, The Netherlands^b Department of Clinical Psychology, KU Leuven, Leuven, Belgium

ARTICLE INFO

Article history:

Received 3 June 2015

Received in revised form

7 December 2015

Accepted 27 January 2016

Available online 28 January 2016

Keywords:

Emotion regulation

Non-suicidal self-injury

Shock

Sensation seeking

Affective style

ABSTRACT

Previous research has shown that in response to a monotonous, boring lab situation, non-clinical participants voluntarily self-administer electric shocks. The shocks probably served to disrupt the tedious monotony: they were the only available external source of stimulation. Alternatively, the shocks might have functioned to regulate the negative emotional experience caused by the induction of boredom, consistent with theories on the function of non-suicidal self-injury (NSSI). According to this latter explanation, induction of other negative emotions would also increase the administration of shocks. To test this explanation, 69 participants watched a monotonous, sad or neutral film fragment, during which they could self-administer electric shocks. Participants in the boredom condition self-administered more shocks and with higher intensity, compared to both the neutral and sadness condition. Sadness had no effect on the self-administration of shocks. The effect of boredom was more pronounced in participants with a history of NSSI: they administered more shocks in the first 15 min. The results indicate that the shocks function to disrupt monotony and not to regulate negative emotional experience in general. Moreover, boredom appears an important impetus for NSSI.

© 2016 Elsevier Ireland Ltd. All rights reserved.

1. Introduction

Boredom is considered an unpleasant emotion that arises when an individual is unable to engage in satisfying activity and attributes this to the context, which is perceived as uninteresting or lacking of stimulation (Eastwood et al., 2012). An experimental manipulation to induce feelings of boredom typically exists of offering monotonous stimulation for a prolonged time. Interruptions of the task decrease feelings of boredom, especially if the task is simple and demands little attention (Fisher, 1993). Further, asking participants to entertain themselves with their thoughts only is considered unpleasant and boring (Wilson et al., 2014). Wilson and colleagues found that their study participants even preferred aversive stimulation (i.e., an electric shock) to being left alone with their thoughts only.

The study by Wilson et al. (2014) was not aimed at studying the effect of boredom and they did not compare a stimulus-deprived condition to a stimulus-rich condition. It is therefore not possible to conclude that stimulus deprivation leads to boredom that in turn motivates people to shock themselves when given the opportunity to do so. Indeed, the participants might simply have

shocked themselves because they could: out of curiosity, not out of boredom. However recently, Havermans et al. (2015) showed that when people are offered the opportunity to disrupt monotony with alternative stimulation, they are likely to do so. In their experiment, participants were randomly divided into two conditions: a neutral condition in which they watched a documentary for one hour, and a boring condition in which they had to watch one short fragment of the same documentary over and over again for one hour. In both conditions, participants had free access to either chocolate (experiment 1) or electric shocks (experiment 2). In the monotonous, boring condition, people ate more chocolate and they shocked themselves more often and with a higher intensity, compared to the respective neutral conditions. The authors concluded therefore, alike Wilson et al. (2014), that boredom is aversive to such an extent that some people even prefer negative stimuli above monotony.

There is another explanation why participants might choose to shock themselves. According to Chapman's Experiential Avoidance Model (Chapman et al., 2006), deliberate self-harm, also called non-suicidal self-injury (NSSI), has the function to avoid or escape from aversive emotional experiences. NSSI refers to purposefully inflicting harm to one's body and includes behaviors like scratching, cutting, hitting or burning oneself (Whitlock et al., 2006; Claes et al., 2010). The mechanism behind NSSI is not

* Corresponding author.

E-mail address: c.nederkoorn@maastrichtuniversity.nl (C. Nederkoorn).

completely clear yet: NSSI might elicit endogenous opioids, which alleviates pain and emotional distress or the physiological stimulation might serve as distraction and help to shift attention from emotional pain towards physical pain (Chapman et al., 2006). NSSI is more common in psychiatric populations, but also reported frequently in the general population (Whitlock et al., 2006; Claes et al., 2010). Among adolescence, the frequency is estimated to lie between 13% and 23% (Jacobson and Gould, 2007; Muehlenkamp et al., 2012) and among college students it was found that between 17% (Whitlock et al., 2006) and 41% (Aizenman and Jensen, 2007) reported the occurrence of at least one NSSI incident. The most important function of NSSI appears affect-regulation: people reported decreased negative affect, relief and increased positive affect directly after NSSI (Chapman et al., 2006; Klonsky, 2007; Claes et al., 2010). It seems therefore possible that in the studies of Havermans et al. (2015) and Wilson et al. (2014), voluntarily administering electric shocks might have served to cope with the negative emotional experience caused by the induction of boredom. This would imply that if another negative emotion is induced, again part of the participants would choose to administer electric shocks, in order to avoid experiencing the negative emotion.

In addition, it is expected that participants with a history of NSSI revert to painful stimulation during aversive emotions in the lab more easily. Self-administering electric shocks can be considered a proxy of NSSI behavior (Franklin et al., 2013), behavior these participants have shown before. In addition, participants with a history of NSSI are found to have higher pain thresholds (Claes et al., 2006; Hooley et al., 2010), making it likely they would self-administer electric shocks with a higher intensity.

In the present study, the two alternative explanations are tested. Participants are randomly divided between 3 conditions: a boredom condition, a sadness condition and a neutral condition. Participants will view film fragments, during which they can voluntarily choose to self-administer electric shocks. The number of the shocks within the first 15 min and within one hour will be tested. These two time periods are used in the studies of respectively Wilson et al. (2014) and Havermans et al. (2015) respectively and allow to study the effect of short and prolonged mood induction. Besides the number of shocks, the maximum intensity of the shocks that participants choose will be tested. It is hypothesized that participants in the boredom and sadness condition will self-administer more electric shocks and shocks with a higher maximum intensity, compared to the neutral condition.

2. Method

2.1. Participants

The study was approved by the Ethical Committee of the Faculty of Psychology and Neuroscience, Maastricht University. Sample size was based on a medium effect size (in Havermans et al. (2015) a large effect of the boredom manipulation was found ($\eta_{\text{partial}}^2=0.41$), but the effect size of the sadness manipulation on self-administration of shocks was unknown and therefore estimated as medium). When employing an alpha rejection criterion of 0.05 and a power of 0.80, we needed 65 participants for the current research design. We therefore aimed to test between 65 and 70 participants. Seventy participants registered, all undergraduate university students. After registration, participants were informed about the exclusion criteria for the current study (neural or cardiovascular disorders, pregnancy). No participants were excluded. During the testing of one participant, the apparatus did not function. A total of 69 participants are thus included in the analyses (56 women, 13 men, M age=22.17 years, $SD=2.67$).

2.2. Materials

2.2.1. Mood induction

Participants were randomly assigned to the neutral, boredom or sadness condition. During the neutral condition, participants watched a 60 min segment of the 95 min documentary *In Search of Memory* (Seegers, 2009). This documentary depicts the life and research on memory of the Nobel laureate and neuroscientist Eric Kandel. During the boredom condition, participants watched an 83 s fragment out of the same documentary. In this fragment Kandel is playing a game of indoor tennis with a friend. The fragment was repeated 43 times for a total of 60 min. During the sad condition participants watched a 60 min fragment of the somber movie *My sister's keeper* (Furst et al., 2009). The movie is about a girl who was born as a savior sibling in order to donate bone marrow, blood or other organs, so her older sister can fight leukemia.

2.2.2. Questionnaires¹

2.2.2.1. Mood. Participants were asked to rate how bored, happy, sad, frustrated, angry, anxious, tensed, tired, nervous, safe, and helpless they felt that moment on 10 cm visual analog scales (VAS), ranging from 0 ('not at all') to 100 ('very much').

Based on the affect grid of Russell (Russell et al., 1989, Russell and Feldman Barrett, 1999; Mandryk et al., 2006) two composite scores were made: the emotions with the most negative valence (sadness, anger, boredom, fear, frustration and, negatively scored, happiness) were added to form an index for negative valence. In addition, the emotions with the most arousal (nervousness, tenseness and, negatively scored, tiredness) were added as an index for arousal.

2.2.2.2. History of NSSI. Participants filled out the Self-Injury Questionnaire (SIQ; Claes and Vandereycken, 2007). This scale contains questions about 5 types of non-suicidal self-injurious behavior and gives participants the possibility to add a sixth. Of each behavior, the incidence is asked on a 5 points scale, ranging from "last week" to "never". Only when participants report the occurrence of a behavior within the last month, more questions about the behavior are asked. In the present study, participants will be either identified as having a life-time history of NSSI or not (0–1). For being identified as having a history of NSSI, participants must have engaged in at least one type of NSSI during life-time.

2.2.3. Electro-cutaneous stimulation

Two 8 mm electrodes (filled with hypertonic gel; spaced 2 cm apart) were attached to the inside of the non-dominant lower arm. The electrodes connected the participant to a bipolar constant current stimulator (DS5, Digitimer, Hertfordshire, UK), which is able to administer a 300 ms. electric shock, sinus wave: 50 Hz, between 1 and 20 mA (intensity selected by the participant). The number of self-administered electric shocks after 15 min and after 1 h, and the highest selected intensity of the shock (the highest current) were registered.

2.3. Procedure

After signing an informed consent form, electrodes were attached and participants were explained how they could administer an electric shock, if they would choose to do so. The participants were explained that they could self-administer an electro-

¹ Exploratively, the Sensation Seeking Scale (Zuckerman, 2007) and the concealing subscale of the ASQ (Hofmann and Kashdan, 2010) were measured. No significant effects or relations with the other variables were found. More details can be found in Supplemental information.

Download English Version:

<https://daneshyari.com/en/article/333103>

Download Persian Version:

<https://daneshyari.com/article/333103>

[Daneshyari.com](https://daneshyari.com)