Teachers for the Knowledge Society

The psychosocial implications of Romanian youngster’s exposure to aggressive verbal stimuli evidenced by the polygraph

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Abstract

The objective of the study is to reveal the influence of aggressive words versus love words in physiological reactivity at the polygraph and the implication of Romanian youngster’s social life. The conclusion highlighted that participants to the study assumed both the aggressive and love words stimuli as normal environment. The explanation of these findings based on the model of the effects of exposure to media violence highlighted that living in the city environment, surrounded either by aggressive words stimuli or by love words stimuli the teenagers are adapted either to the hostile words or to the love words.

Keywords: desensitization; love words; loving environment; aggressive words; aggressive environment.

1. Theoretical framework

In the last two decades, after the revolution from 1989, the television and the internet have suffered at international level and consequently, at national level an explosion concerning the aggressive, violent and vulgar language with sexual connotations inadequate for optimal cognitive and emotional development of children, teenagers and young.

Internationally Kaye and Sapolsky (2004) completed a review study in which they examine the frequency and types of offensive language spoken on prime-time television in 2001, particularly on programs rated as being acceptable for children and teenagers. Therefore, the authors highlighted that youngsters learn aggressive and violent words from many different sources: television, internet, movies, song lyrics, friends, classmates and even parents (Kadaba, 1999; Wright, 1992). Therefore, Wright (1992) showed that teachers claim that children, teens and youngsters bring to school what they hear at home while parents highlight that children bring home what they hear in school (Niebuhr, 1992). Brozan (1982) and Niebuhr (1992) cited by Kaye and Sapolsky (2004) showed that teachers and principals have been reporting for decades words that were once only suitable for taverns are now being used by children.

Therefore, Kaye and Sapolsky (2004) emphasize that verbal aggression involves “attacking the self-concept” of general terms such as “swearing”, “profanity”, “cursing” and “cussing” and they are used by language scholars and others who study offensive language to describe the many words that are deemed objectionable by most people.
(Andersson & Trudgill, 1990; Arango, 1989; Jay, 1992, 2000; O’Connor, 2000) cited by therefore, Kaye and Sapolsky (2004). Kaye and Sapolsky (2004) evidenced that verbal obscenities are used for a variety of reasons: to express anger, to emphasize feelings, to discredit or provoke someone, to get attention, to express social power, to gain control over the outcome of a situation, to relieve tension and frustration and for other cathartic reasons (Fine & Johnson, 1984; Infante & Wigley, 1986; Rothwell, 1971; Selnow, 1985) cited by Kaye and Sapolsky (2004).

Jay (2000), Martin, Anderson & Cos (1997), and Paik & Comstock (1994) showed that studies of television violence suggest that repeated exposure to aggressive behavior, including profanity, may result in a loss of normal emotional responses. Also, the authors cited by Kaye and Sapolsky (2004) consider that the repetition of a word thus blunts the original offense caused by inhibition and the desensitization effect is not particular to dirty words but occurs when any word is used repeatedly. In this way, also the lyrics and the love words can also have the same effect. Furthermore, the same authors evidenced that desensitization lead to less responsiveness, less interested and more tolerant broadcast images and words (Condry, 1989; Martin, Anderson & Cos, 1997; Tan, 1985) and to increased aggressiveness in real life (Griffiths & Shuckford, 1989; Paik & Comstock, 1994; Tan, 1985).

In order to emphasize desensitization, Anderson and Bushman (2001; 2002) have shown that short-term exposure to violent video games causes increases in aggression and aggression-related variables. Anderson, Benjamin & Bartholow (1998) and Bargh, Chen & Barrows (1996) showed that aggressive words can prime trigger aggressive thoughts, perceptions, and behaviour. According to the model of the effects of exposure to media violence, repeated exposure to violent lyrics may contribute to the development of an aggressive personality (Anderson & Bushman, 2002; Anderson, Carnagey & Eubanks, 2003), as it is true for long-term effects of TV violence (Huesmann, 1988; Huesmann & Miller, 1994).

In their previous study, Harris, Aycicegy and Gleason (2003) evidenced the physiological effects of exposing the youngsters to verbal stimuli consisting in aggressive and obscene expressions but also in love expressions. Also a great contribution had the previous experimental studies involving aggressive and violent scenes from movies (Aniței, Chraif, Papasteri & Neaçu, 2009a) and the GSR response to aggressive verbal stimuli (Aniței, Chraif, Papasteri & Neaçu, 2009b; Aniței & Chraif (in press); Chraif & Anitei (in press).

2. The research objectives and hypotheses

2.1. The research objectives

The first objective in focused to highlight the influence of the aggressive words in the physiological reactivity of young students recorded by the polygraph sensors as action of the autonomus nervous system.

The second objective is focused to evidence the influence of the love and appreciation words in the physiological reactivity of young students recorded by the polygraph sensors as action of the autonomous nervous system.

2.2. The research hypotheses

The current study aims to investigate the following hypotheses: (a) there is a statistically significant difference between the physiological reactivity (GSR amplitude and time until return, heart rate, blood pressure and respiration rate) recorded by the polygraph when listening to aggressive and obscene expressions and when listening to love expressions; (b) the adaptation of subjects to the audio stimuli statistically influences the physiological reactivity (GSR amplitude and time until return, heart rate, blood pressure and respiration rate) recorded by the polygraph sensors.

3. Method

3.1. Participants

The participants were 48 students at the Faculty of Psychology and Educational Science, University of Bucharest age aged between 18 and 20 years (m=18.5; S.D.=0.42), both female and male, rural and urban area.

3.2. Instruments and materials

The Laffayette Polygraph, LX 4000-Platinum Series, with virtual interface, windows program. The polygraph software and the GSR sensors are generally fixed about two inches apart, either to the top and bottom of the middle
finger or on the base of two adjacent fingers. A voice recorder and headphones for each subject/participant to listen individually during the experimental situations.

Two audio recordings mixed as follows: a) the first recording was a selection of 17 expressions consisting in sentences composed of: obscene words, swearing, aggressive and violent words; b) the second recording was a selection of 17 expressions consisting in sentences composed of: words of love, beauty and compliments.

All the stimuli-words were taken from the TV news channels and from entertainment TV shows broadcasted between the highest rated hours (15.00-22.00) which were listened by youngsters.

3.3. Procedure

The examination was divided into two experimental situations: the first experimental situation composed of obscene words, swearing, aggressive and violent expressions taken from the TV channels and the second experimental situation composed from exposure words expressing love, tenderness from the TV channels.

4. Findings and Results

Analyzing the data for each individual who participated in the study, during the exposure to the 17 verbal stimuli composed of aggressive words it can be noticed that beginning with the 11th or 12th verbal stimulus composed of an aggressive expression the adaptation of subjects interferes with the stimuli and, therefore, the physiological indicators are not characterized by high amplitudes anymore. Hence, both the values of the GSR and of the GSR return distance in pixels are smaller.

For a detailed analysis of these indicators, table 1 shows the means and the standard deviations for all three situations of the exposure to the 17 verbal stimuli composed of aggressive expressions: before the adaptation level, after the adaptation level and for all the period of exposure to all aggressive stimuli.

Table 1. Change in reactivity to aggressive, obscene and violent words stimuli taking into consideration the adaptation threshold / level

<table>
<thead>
<tr>
<th>Variable</th>
<th>Before the threshold of Adaptation</th>
<th>After the threshold of adaptation</th>
<th>All the period of exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSR Amplitude</td>
<td>10.2 div 2.18</td>
<td>3.2 div 3.23</td>
<td>6.7 div 2.71</td>
</tr>
<tr>
<td>GSR return distance in pixels</td>
<td>31.42 sec 4.85</td>
<td>14.3 sec 3.74</td>
<td>22.86 sec 4.29</td>
</tr>
<tr>
<td>Heart rate (max)</td>
<td>98.15 bpm 12.41</td>
<td>94.11 bpm 9.22</td>
<td>96.13 bpm 10.81</td>
</tr>
<tr>
<td>Blood volume pulse</td>
<td>35 mmHG 1.37</td>
<td>34 mmHG 1.07</td>
<td>34.5 mmHG 1.22</td>
</tr>
<tr>
<td>Respiration Amplitude P1</td>
<td>2.7 div 1.23</td>
<td>3.4 div 1.11</td>
<td>3.05 div 1.17</td>
</tr>
<tr>
<td>Respiration return P1</td>
<td>3.21 sec 0.42</td>
<td>2.7 sec 0.56</td>
<td>2.95 sec 0.49</td>
</tr>
</tbody>
</table>

As we can observe in table 1 and after applying the nonparametric Wilcoxon test for dependent groups, the mean of the GSR average amplitudes for the experimental situation before the adaptation level (the 11th and the 12th verbal stimuli) is statistically significant higher than the mean of the GSR average amplitudes recorded after the adaptation level (mGSR1=10.2>3.2=mGSR2) for p<0.05. Also, from table 1 and after applying the nonparametric Wilcoxon test for dependent groups we can observe that the mean of the average return time of the GSR for the experimental situation before the adaptation level (the 11th and the 12th verbal stimuli) is statistically significant higher than the mean of the average return time of the GSR recorded after the adaptation level (mGSR3=31.42>14.3=mGSR4) for p<0.05.

Therefore the specific statistical hypothesis 1 has been confirmed partially, only for GSR amplitude and time until return which highlights that after the exposure to 10-12 verbal stimuli composed of aggressive words, the youngsters are emotional adapted at an unconscious level, and consequently the adaptation to the environment they are exposed to interfere.

As it can be observed in table 2 and after applying the nonparametric Wilcoxon test for dependent groups, the mean of the GSR average amplitudes for the experimental situation before the adaptation level (stimulus 9 and 10) is statistically (significant) higher than the mean of the GSR amplitudes recorded after the adaptation level (mGSR5=3.6>1.02=mGSR6) for p<0.05.
Table 2. Change in reactivity to love words stimuli, taking into consideration the adaptation threshold/level

<table>
<thead>
<tr>
<th>Variable</th>
<th>Before the threshold of adaptation</th>
<th>After the threshold of adaptation</th>
<th>All the period of exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>GSR Amplitude</td>
<td>3.6 div</td>
<td>1.47</td>
<td>1.02 div</td>
</tr>
<tr>
<td>GSR return distance in pixels</td>
<td>29.1 sec</td>
<td>3.24</td>
<td>15.01 sec</td>
</tr>
<tr>
<td>Heart rate</td>
<td>94.7 bpm</td>
<td>13.05</td>
<td>95.12 bpm</td>
</tr>
<tr>
<td>Blood volume pulse</td>
<td>34.2 mmHG</td>
<td>1.27</td>
<td>34.1 mmHG</td>
</tr>
<tr>
<td>Respiration Amplitude P1</td>
<td>4.1 div</td>
<td>1.02</td>
<td>4.01 div</td>
</tr>
<tr>
<td>Respiration return P1</td>
<td>3.32 sec</td>
<td>0.37</td>
<td>3.3 sec</td>
</tr>
</tbody>
</table>

Also, from table 2 and after applying the nonparametric Wilcoxon test for dependent groups it has been emphasized that the mean of the return time of the GSR for the experimental situation before the adaptation level (stimulus 9 and 10) is statistically higher than the mean of the average return time of the GSR recorded after the adaptation level (mGSR7=29.1>15.01=mGSR8) for p<0.05. Hence, the specific statistical hypothesis 2 has been confirmed partially only for GSR amplitude and time until return which highlights that after the exposure to 9-10 verbal stimuli composed of nonaggressive words expressing love, the young emotionally adapt at an unconscious level, and consequently the adaptation to the environment they are exposed to interferes.

Therefore, as table 1 and 2 show but also after obtaining the statistical significance of the mean concerning the average GSR amplitudes for the experimental situation of exposure to the verbal aggressive stimuli before the adaptation level is statistically higher than the mean concerning the average GSR amplitudes for the experimental situation of exposure to the nonaggressive stimuli before the adaptation level (mGSR1=10.2>3.6=mGSR5) for p<0.05. The explanation consists in the fact that youngsters have powerful emotional reactions on long term when exposed to both verbal stimuli composed of aggressive words (swearing, obscene words) and verbal stimuli composed of nonaggressive expressions (love) until they pass beyond the adaptation level. The difference between the two types of GSR reactivity is statistically higher for the all the group when exposed to aggressive stimuli than when exposed to nonaggressive stimuli in the first experimental stage until the adaptation level.

5. Conclusions and Recommendations

Starting from the previous researches concerning the emotional reactivity, which was recorded by the polygraph, towards violent verbal stimuli taken from movies (Aniţei, Chraif, Papasteri & Neacşu, 2009a) and towards aggressive video clips from movies (Aniţei, Chraif, Papasteri & Neacşu, 2009b), this study wants to highlight the physiological reactivity recorded by the polygraph during the exposure to verbal stimuli composed of aggressive and obscene words taken from the media and to verbal stimuli composed of nonaggressive expressions of love, for instance. Also, another purpose of the research was to emphasize the levels of adaptation to aggressive stimuli (stimulus 11 and 12) and nonaggressive (stimulus 9 and 10) on the basis of The general aggression model (Anderson & Bushman, 2002) and The model of the effects of exposure to media violence (Carnagey, Anderson & Bushman, 2007). Analyzing the research results both research hypotheses has been partially confirmed only for the GSR amplitude and time until return (p<0.05) evidencing the unconscious level of youngsters perception controlled by the limbic system. Therefore, repeated exposure to aggressive words from the television may normalize their usage and lead youngsters, to increase their use of profane and aggressive language in everyday conversation. Thus, parents and teachers and nevertheless the psychologists should know that the young will become desensitized and imitate the unacceptable language they hear on television. Considering that the stimuli composed of words from the research have been taken from Romanian TV shows with the highest rating, we can conclude that television acts as a socializing agent, especially for the young Romanian viewers.

One important aspect of the study is that it emphasises the fact that adaptation interferes even when it comes to nice words of love which create a positive environment for youngsters. Hence, the applicability and recommendations of the study is the possibility to create and implement a positive environment for youngsters proper for development, growth and education starting from the family environment, high school, university but also from the group of friends and from the information received from the media (television, internet, theatre, cinema,
etc) either in Romania or other countries. Thus, understanding the youngsters’ emotions and behaviour should be a challenge for the teaching career.

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