

LAUGHTER AND WELL-BEING

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Abstract

Laughter has been found to have multiple positive effects on different dimensions of well-being, like the functioning of the immune system or the cardiovascular system, in alleviating the pain or the suffering in different long term diseases like cancer or diabetes. At the interpersonal level, being laughed at (even when accepted) has negative effects, whereas laughing together strengthens the relationships and helps in building trust. The effects have been investigated both for natural and provoked laughter. The article presents the results of an experiment investigating the immediate effects of laughter on self-acceptance, anxiety, and anger, as these dimensions are strongly connected with well-being in general at interpersonal, psychological and biological levels. The participants in the experimental group watched a situational comedy. Significant differences were found for the unconditional self-acceptance, trait-anxiety, anger expression (both internal and external) and anger control: The persons who had laughed had higher self-acceptance, lower trait-anxiety, lower tendency to express anger, both outside or inside, and a higher ability to calm down. The focus shifts from self-assessment to self-acceptance and acceptance of the situation. The person focuses on being and not on reacting, helping in a harmonious integration into the environment, limiting herself to the natural, spontaneous actions naturally adjusted to the situations, being more able to mentally deal with the incongruence causing cognitive dissonance and not trying to suppress them.

Keywords: anger control, anger expression, anxiety, laughter, self-acceptance.

1. INTRODUCTION

Laughter is considered to be the healthy response to obvious incongruencies, “one of the highest manifestations of the cerebral processes” (Cousins, 1989, p.127). Norman Cousins, a well-known author in the field, was suffering from ankylosing spondylitis, and he tried laughing as a method of getting a better sleep, discovering that “ten minutes of solid belly laughter would give me two hours of pain-free sleep” (ibidem, p.126). He told his physician about it and he measured his sedimentation rate and found it had decreased after robust laugh, and the reduction was cumulative. Laughter also allowed him to be more mobile. He mentions other effects reported in different studies, like enhanced respiration and increasing the number of disease-fighting immune cells. This type of evidence led to designing special rooms for viewing humorous movies in oncological medical sections. Laughter produced by the interaction with clowns had an alleviating effect and improved the performance of spirometry among preschoolers (Nir et al., 2018). Tanaka, Tokuda, and Ichihara (2018) tested the effects of a six months laughter yoga program, consisting in a 45 minutes session a month, on community members. They found that laughter had significant positive effects on the emotional level, especially lowering tension anxiety and increasing vigor. The effects were visible also on a physical level: adrenocorticotropic hormone and cortisol values, considered to

be associated with stress, significantly decreased after the fourth laughter yoga session. This may indicate that laughter is effective in improving both the psychological and the physiological state in healthy people.

Noueldein and Eid (2018) made a review of the proved effects of laughter on cardiovascular complications. They mention a decrease in the postprandial glucose levels (without checking for changes in circulating insulin levels), an overall delay of the onset of many other complications in type 2 diabetes melitus, especially cardiovascular ones, and a rectification of homeostatic abnormalities. The cortisol level significantly decreased both in simulated laughter (yoga-laughter), and in a comedy laughter condition. The effects lasted longer for the latter. Also, a significant decrease in the dehydroepiandrosterone (DHEA) was observed only for laughing during watching a comedy (Fujisawa et al., 2018). A significantly higher heart rate and lower heart rate variability was found for simulated laughter than for genuine laughter after watching a humorous video (Law, Broadbent and Sollers, 2018).

As we can see, the researchers were interested to see whether the laughter involves different mechanisms when it is spontaneous or volitional (or some may say fake). Bryant and colleagues (2018) used 36 recorded laugh sequences produced by human English speakers to test the accuracy of perception of spontaneous and volitional laughter. People from 21 societies succeeded to differentiate between the two types of laughter in proportion from 56% up to 69%. The main hint they used to make the judgments was the sound features associated with arousal in vocal production.

There are some major differences between laughing with and being laughed at. The former may set in motion the mechanisms enhancing well-being, while the other may be received as a form of rejection, humiliation, leading to a real phobia, but also other different manifestations. Greengross and Martin (2018) compared a sample of 511 comedy performers (amateur improvisational artists) with 795 non-performers (matched in age and sex with the research sample) in terms of number of episodes and the total days they had had various infectious diseases. The comedy performers reported more frequent infectious diseases (respiratory infections, head colds, stomach or intestinal flu, skin infections, and autoimmune diseases) and more days having them. The control group had had significantly more bladder infections, but not days with the infection.

Laughter has been found to be one of the behaviors associated with interpersonal attraction in a sample of 5422 persons, especially in connection to the development of trust/rapport, also including eye contact, smiling, or mimicry. Laugh may be seen as a spontaneous and thus sincere form of manifestation (Montoya, Kershaw, and Prosser, 2018). When it is spontaneous, it may connect human beings to a more primal level.

Gupta and Kivlighan (2018) found that participants in psychoanalysis with high attachment anxiety laughed more nervous, and those high on attachment avoidance had less cheerful and more contemptuous laughter. Both session and psychotherapist received more positive feedback after sessions with more reflective laughter. Some clients with most nervous and contemptuous laughter evaluated sessions most positively.

The objective of our research was to study the effects of laughter on anxiety, anger and general attitude towards self. The general hypothesis was that spontaneous laughter, by engaging the persons in a highly spontaneous and energizing activity, leads to an increased self-acceptance, and, thus, lowers anxiety and decreases the internal tendency to express anger. We anticipated some changes as laughter seems to help people accommodate to contradictions and cope with negative experiences. The specific hypotheses were:

- People laughing at a funny film have a higher self-acceptance than those who do not.

- The anxiety is lower in persons who have laughed at a funny film than in persons who did not.
- The tendency to express anger is lower after having laughed at a funny film.

2. MATERIALS AND METHODS

We have conducted a post-test experimental study with two groups: an experimental and a control one, integrating psychometric and statistical methods.

Participants

The participants were divided in two groups: an experimental and a control one. The 17 persons in the experimental group were students in Clinical Psychology: Assessment and Intervention masteral program, with a mean age of 25.3 years (standard deviation 3.40), 15 females and 2 men. The control group consisted in 17 persons from the community with a mean age of 24 years (standard deviation 2.1), with the same distribution on gender. They participated as volunteers for the study.

Instruments

The Unconditional Self- Acceptance Questionnaire (USAQ, Chamberlain, & Haaga, 2007) is a 20-item instrument aiming at assessing the person's attitude towards herself as having an intrinsic value, as opposed to that resulting from using external standards to assess it. A higher score expresses a general attitude of self-acceptance, and self-worth without referral to external criteria. The instrument has a high internal consistency, and a good validity having significant negative correlations with negative emotions and with irrational beliefs.

The State-Trait Anxiety Inventory (STAI, Spielberger, 2007) is a 40-item instrument dedicated to assessing anxiety in the present (State-Anxiety – the first 20 items) or in general (Trait Anxiety – the next 20 items). Anxiety is considered to be a state of fear with no specific connection to a stressor. The inventory contains both positive and negative, reverse-scored items. It has a high internal consistency on both scales (.92 and .94) on Romanian population and a good validity.

The State-Trait Anger Expression Inventory-2 (STAXI-2, Pitariu, Iliescu, & Spielberger, 2015) assesses several aspects of anger. The State Anger scale is dedicated to the emotional state in the present including its verbal and physical expression. The trait Anger has two subscales measuring the tendency to experience anger in general. The Anger Expression scales assess the tendency to express anger toward other objects and persons in the environment (Out) or holding it inside (In), while the Anger Control ones measure the tendency to control angry feelings directed outside by preventing it (Out) or inside by suppression and self-calming actions (In). A total Anger Expression Index is computed by using the last four subscales. The alpha Cronbach coefficient for each scale varies from .57 to .96.

Procedure

The participation in the experiment was volunteer and anonymous. The participants in the experimental group watched a situational comedy ("A pit full of money") in group and filled in the questionnaires at the end. The ones in the control group completed the instruments as a common activity during the day, with no constraints, being motivated only by finding out the results.

3. RESULTS AND DISCUSSIONS

The descriptive characteristics of the distributions of scores on the instruments are shown in Table 1. The statistical analysis was computed using SPSS 20.0.

Table 1. Means and standard deviations for each variable on both experimental groups and the t corresponding t-test for independent samples

Variable	Mean	Standard Deviation	t-test	p
State Anxiety	31.06	12.21	.031	.975
	30.94	9.61		
Trait Anxiety	34.71	7.06	-14.736	.000
	68.82	6.42		
State Anger	17.59	8.01	.699	.489
	16.18	2.27		
Anger Feeling	6.11	3.40	.686	.498
	5.53	0.94		
Verbal Expression of Anger	5.59	1.37	.133	.470
	5.11	0.48		
Physical Expression of Anger	5.58	3.64	.376	.710
	5.53	1.33		
Trait Anger	18.53	5.06	.385	.703
	17.82	5.62		
Anger Control Out	21.82	3.73	6.478	.000
	12.82	4.35		
Anger Expression Out	21.76	4.10	-6.969	.000
	24.77	3.33		
Anger Control In	21.76	4.10	3.587	.001
	16.52	4.40		
Anger Expression In	15.24	5.41	-7.294	.000
	26.47	3.32		
Anger Expression Index	35.58	10.51	-10.071	.000
	69.88	9.31		
Unconditional Self-Acceptance	93.65	14.01	2.289	.029
	82.71	13.86		

The *first hypothesis* was that the persons who have laughed at a funny film have a higher self-acceptance than those who have not. The result of the t-test for independent samples indicates that the data confirmed the hypothesis (as shown in Table 1), the participants in the experimental condition reporting a statistically significant higher unconditional self-acceptance.

The *second hypothesis* was that the anxiety is lower in persons who have laughed at a funny film than in persons who have not. We tested the hypothesis both for the State Anxiety and for Trait Anxiety, the differences being statistically significant only for the Trait Anxiety: Those in the experimental conditions reported significantly lower Trait-Anxiety, and not State Anxiety.

The *third hypothesis* was that the tendency to express anger is lower after having laughed at a funny film. As it is shown in Table 1, the general tendency to express anger (The Anger Expression Index) was significantly lower for the participants in the experimental group. When detailed, the anger both directed outside and inside, was significantly lower for the experimental group, while the tendency to calm down and to prevent the external expression was significantly higher.

Discussions

The results of the present study are more relevant when considered all together: The participants in the experimental group, after having watched and laughing at a comedy, were significantly more unconditionally self-acceptant, had a lower tendency to express anger, both internally and externally, and described themselves as more inclined to calm down and to prevent the external manifestations, and less inclined to feel anxious, although their anxiety in the present did not differ significantly from that reported by the participants in the control condition. The authors of the STAI, when describing the state- or trait-anxiety, make a special reference to the situations the persons with higher trait-anxiety tend to react to with anxiety: It is not elicited by the physical, objective stressors (they tend to react with an anxiety of the same intensity as the persons with low trait-anxiety), but especially by interpersonal situations. In our experiment, the participants watching the comedy also were significantly more self-acceptant, meaning that they were more inclined to accept and appreciate themselves as they are, without referral to external standards when finding the value for the self. They are less concerned with assessing themselves by comparing themselves with others and standards established by different social groups, and value themselves for being who they are, as human beings, thus, being more spontaneous and possibly more open to the self at an organic, physical level. As Schulkind and Woldorf (2005) showed, the autobiographical memory is organized emotionally. By means of an experiment they found that emotional information is a cue for autobiographical memories in terms of emotional values, meaning that the valence of emotion in the present determines the retrieval of emotion congruent memories. So, the participants laughing at the comedy might have felt less inclined to give priority to situations when they have felt anxious or angry when assessing the statements referring to their general way of being. We may conclude that laughter helps the person focus on the personal worth for the simple fact of being, with no need to overreact to interpersonal situations with anger or anxiety, neither towards her. The focus shifts from self-assessment to self-acceptance and acceptance of the situation. The person focuses on being and not on reacting, helping in a harmonious integration into the environment, limiting herself to the natural, spontaneous actions naturally adjusted to the situations, being more able to mentally deal with the incongruence causing cognitive dissonance and not trying to suppress them. Thus, we may have a better understanding of why laughter has such beneficial effects also on physical health as shown in the introduction section. We may take into account that the organism already has mechanisms to deal with the possible negative consequences of laughter on the physical condition (Svebak, 2016), suggesting that it is a healthy way of acting in some situations. It may also make the person more able to assess her state in the present more clearly, with less interference from past experiences. On long term, at psychological and interpersonal levels it may prevent from focusing on personal vulnerabilities and self-devaluating actions and encourage a better functioning and self-improvement in a natural rhythm.

4. CONCLUSIONS

The main conclusion of our experiment connected with previous research on the same topic shows that laughing increases the overall self-acceptance, with effects on negative emotions, general well-being, and the quality of interpersonal relationships, when laughing together.

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