Original article

Using inspirational and humorous narratives as a Nudge towards health status disclosure

SIBYLLA VERDI HUGHES[2], DAVIDE PIETRONI[1]

[1] *University of Chieti Pescara - Dept. of Business Studies*
[2] *University of Padua - Department of Applied Psychology FISPA*

Abstract: The present paper discusses the third part of a series of papers that have investigated individuals biased cognitive and affective representations of the body's parts, specifically the anal and genital regions and how these affect disclosure and help seeking. In our current study, we measured the impact of two types of interventions aimed at mitigating the stigma associated with these body parts which has been found in the previous two papers as strongly related with help seeking resistance. We presented participants with a nudge consisting of two texts created specifically to prime individuals to perceive the body parts investigated more favorably and even in a more ironic way. We found that both interventions, humor and the inspirational story about problems in the rectal region, were equally effective in contrasting stigmatization of the body part, i.e. to mitigate the perception of dirtiness, embarrassment, and disgust associated with both the anus and the genitals. Furthermore these nudges improved participants willingness to engage in a conversation about anus/genitals problems. Unexpectedly, the simple humorous story seemed more effective than the inspirational story as the latter risked to increase a sense of weakness and vulnerability associated to the area. The effectiveness of the intervention was affected by age and gender. Implications of these findings are discussed.

Key words: Self-disclosure; Humor; Priming; Nudge; Storytelling; Body stigma.

INTRODUCTION

Humor and storytelling have been used in a variety of settings including the medical field to impact changes in individuals behavior such as help seeking, well-being and illness disclosure[1]. In order to investigate if we could change perception of the pelviperineal region which, as we identified in our previous study[2], was the body region that suffers the most from stigma, poor perception and neglect, we decided to employ a nudge consisting in the administration of two brief stories.

The concept of **Nudge** originated recently from behavioral science, political theory and economics which argues that positive reinforcement and indirect suggestions to try to achieve non-forced compliance can influence the attitudes, the behavior and the decision making of groups and individuals, at least as effectively – if not more effectively – than direct instruction, legislation, or enforcement[3].

These behavioural science principles are being used to change health behaviors and decisions by capitalizing on the fact that behavior is often influenced by subconscious cues[4]. These cues can be strategically used as primers for healthy behaviors. This strategy capitalizes on our proneness to be subtly affected (primed) by environmental and internal cues. Given the worldwide rising obesity rates, one manner in which this technique has been used is to prime individuals to eat less by changing the size of food containers. In one study, people were given different sized bowls to scoop ice cream into, some large and some small. The results show that bowl size determined how much ice cream was eaten, with the first group consuming 225 calories and the second one consuming 144 calories[5]. Another way nudges have been used in the health sector is in the arrangement of food in school cafeterias. For example, when cafeteria staff placed fruits and vegetables in prominent places such as at cafeteria bottlenecks and displayed them attractively, fruit consumption rose 54% (http://nudges.org/2010/06/09/nudging-in-new-yorklunchroom-cafeterias, accessed June 19th, 2015). In another example, placement of stairs in front of doors, with the elevators 50 feet away, caused more people to take the stairs[6]. Giving students a lecture on the risks of tetanus combined with handing out maps locating the student health center made them nine times more likely to go get a tetanus shot[3]. Even simple inquires about a person's health habits may increase healthy behaviors. Asking people whether they intended to floss and how often increased flossing; asking whether they planned to consume fatty foods in the next week made them less likely to do so[3].

In our study we would like to investigate the use of a type of nudge based on priming individuals through the use of stories.

Priming can be used to prepare people for specific thoughts or actions. It can also act as a more general nudge that encourages the target person to think in a particular way (or at least not in an undesirable way) and thus help to modify their behavior in regards to a specific matter[4].

Priming can be subtle and unconscious, such as with the use of linguistic patterning. It can also be deliberate and conscious, such as in training exercises. It can be short and take one minute or it can be long and repetitive in order to embed a prompted response into memory. In our study, the nudge consisted in participants being presented two types of stories: in one condition participants were told a humorous story making light of the body part investigated and in the other condition participants were told a real-life story about a courageous individual coming to terms with their serious problems concerning their rectal and anal disorder.

METHOD

Participants

One-hundred and fifty-four participants were randomly selected to participate in the study and asked to read a brief text and then to fill out our paper and pencil questionnaire. There were 64 men and 90 women that ranged in age from 19 to 70 years (mean = 34.45, standard deviation = 12.87). The questionnaires were administered at the University of Pescara (central Italy) and the rest in other previously identified public places such as gyms and parks. We checked whether participants had been to a medical specialist for problems concerning the anus o genitals, or had surgery (even only as an outpatient) in the last five years. In our sample, 21.1% of the participants had been to a medical specialist and 3.9% had some sort of surgery on at least one of the ten body parts investigated. More specifically visits with the specialists concerned in greater part the genitals

(14.9%) than the anus (6.2%), as well as surgery interventions concerned more the genitals (3.2%) than the anus (0.7%).

Procedure

All test subjects were current residents of Pescara, Italy. Subjects were asked to take part in a study to investigate cognitive perceptions of body parts. While waiting for the test administration participants were randomly assigned to one of three experimental conditions, where they were asked to read one of three different texts. Each text was about ten lines in length and participants took about one minute to read it. As described in greater detail below, one text consisted merely in a privacy statement (control group), the other two presented two variations of a "nudge" based on priming. The first one was aimed to make the participants grin and chuckle about problems in the anal region, the second was aimed to engage participants in a real story of a courageous individual coming out publicly about their anal area problems.

After reading the text, participants completed a questionnaire which was an evolution and an extension of the one already used by Klonoff and Landrine[7] to investigate the relationship between cognitive representations of body parts and health seeking behavior. In the questionnaire, subjects were asked to describe their genitals and their anus by rating each on 13 items: Important, Dirty, Private, Good, Sensitive to Stress, Embarrassing, Sexual, Useful, Disgusting, Easily Hurt, Erogenous, Ugly and Weak.Each of these descriptions was followed by a scale ranging from 1 (not at all) to 7 (extremely). For each body part, as an index of orientation to seek help and to reveal openly their physical problem, participants assessed on the same 7 points scale how much that body part could become object of a conversation and self-disclosure. Filling out the questionnaire required about three minutes.

Nudge Manipulation

The two nudges consisted in the following: recounting the real-life story of the actress Farrah Fawcett (one of the original Charlie's Angels's) and her battle with anal cancer that began in 2006 and ended in her death in 2009, and reading a humorous story.

Farah Fawcett was diagnosed with rectal cancer in 2006 and began treatment, including chemotherapy and surgery. Four months later, Fawcett was, at that point, cancer-free. In May 2007, she was told a malignantpolyp was found where she had been treated for the initial cancer. She traveled to Germany for treatments and initially the tumors were regressing, their reappearance a few months later necessitated a new course of treatments, this time including laser ablation therapy and chemoembolization. Aided by friend Alana Stewart, Fawcett documented her battle with the disease.

In 2009, Farah died and through the documentary movie she made during her ordeal she raised awareness about anal cancer, the danger of unprotected anal sex, which had caused her cancer and the importance of early detection and screening.

The humorous story went like this: A man urgently consults his doctor complaining of very bad diarrhea. The doctor, who prefers natural based non-invasive solutions, prescribes as treatment the use of a lemon. The result is extraordinarily effective and within hours, the man expresses satisfaction that the problem has been promptly fixed. After three days, however, the man returns to the doctor very disappointed, complaining that the problem has returned worse than before. The doctor expresses surprise since he was convinced that the lemon had worked. The man indeed confirms that in fact the problem was resolved until at a certain point the lemon came out!

RESULT

We first runned a Manova on the presence (humor and inspirational story) versus absence (mere privacy statement) of the nudge and the body parts (genitals versus anus) as the independent variables and the participants descriptions of these body parts as the dependent variable. We found no interaction effects for the factors on any decriptions so the presence of the nudge, in spite of the fact it was focused only on problems concerning the anal region affected both the perception of the anus and genitals confirming the "psychological consistency" of this body region.

We found three main effects of the nudge. It affected how much the pelviperineal region was perceived as dirty, F (1, 153) = 9.71, $p < .01$, embarassing, F (1, 153) = 39.57, $p < .001$ and disgusting, F (1, 153) = 7.77, $p < .01$.

Specifically, the nudged group rated the region as less dirty (M = 3.95, SD = 1.73) than the control group (M = 4.58, SD = 1.82), the nudged group rated the region as less embarassing (M = 4.1, SD = 1.71) than the control group (M = 5.28, SD = 1.57), and finally the nudged group rated the region as less disgusting (M = 3.39, SD = 1.62) than the control group (M = 3.91, SD = 1.7).

These three descriptive dimensions showed a strong internal consistency among them (Alpha = .76), therefore as found in earlier studies they saturated the psychological construct of Stigma associated with the body parts (Klonoff and Landrine, 1992)

Consistently with previous research (Verdi and Pietroni, 2014[b]), we found a number of main effects for the specific body part (genitals vs. anus). Since the aim of the present study is not to broaden these findings, we just listed them. The anus was perceived as less important, more dirty, less good, more embarassing, less sexual, more disgusting, less erogenous, and more ugly than the genitals.

Humor vs Inspirational story

To check the differential effects of the two types of nudges on the perception of the pelviperineal region we runned an ANOVA with the nudge typology as the independent variable. We found a main effect for typology on three genitals/anus perceptions: Sensitiveness to Stress, F (1, 57) = 8.59, $p < .01$, Easiness to Hurt, F (1, 57) = 4.94, $p < .05$, and Weakness, F (1, 57) = 7.14, $p < .01$.

Specifically, priming participants with a touching story about another individuals anus health problems lead them to perceive the region as being more sensitive to stress (M = 4.89, SD = 1.33) compared to using a joke (M = 4.08, SD = 1.62), more vulnerable (M = 5.02, SD = 1.38) compared to using a joke (M = 4.42, SD = 1.52), and weaker (M = 4.21, SD = 1.42) compared to using a joke (M = 3.53, SD = 1.32).

On the other hand, jokes and stories are equally effective compared to the control group in contrasting stigmatization of the region, i.e. to mitigate the perception of dirtiness, embarassment, and disgust.

To investigate if this effect could be mitigated by gender, age, and the clinical history of participants (medical visits and surgery interventions), an ANOVA was conducted including these factors. Results showed only a tendentially significant interation effect between nudge typology and gender on dirtiness perception, F (1, 57) = 3.74, p = .05, while the story was equally effective for men and women in mitigating the perception of dirtness, the jokes tended to be more effective for males (M = 3.18, SD = 1.88) than for females (M = 4.5, SD = 1.34).

Embarassing disclosure

Since the main goal of the present study is to facilitate individuals towards an open discussion about genital and anus health problems so as to overcome the inihibiting stigma associated to this region, we runned an ANOVA investigating the willingnes to make these body parts objects of conversation as the dependent variable and nudge presence, gender, age and clinical history as the independent factors.

We computed the age factor by spliting the participants into two groups (younger and older) on the basis of the median age of the sample (31.5 years).

We found a main effect for nudge presence, F (1, 153) = 8.52, p = .01, and a main effect for age, F (1, 153) = 5.62, p = .05. Furthermore, we found an interaction between these factors, F (1, 153) = 4.01, p = .05.

Participants primed with the nudge (both the humorous and inspirational story) were more open to speaking about their anus and genitals (M = 4.41, SD = 1.48) compared to the control group merely exposed to a privacy statement (M = 3.91, SD = 1.87). Older participants were more willing to engage in a frank conversation about this problem in the area (M = 4.25, SD = 1.84) compared to younger participants (M = 3.95, SD = 1.64). Futhermore, the presence of the nudge affected significantly more the propensity towards disclosure in the more mature participants (from M = 3.94, SD = 1.99 to M = 4.96, SD = 1.73) compared to the less mature participants (from M = 3.87, SD = 1.71 to M = 4.06, SD = 1.56).

This pattern was stable independently from gender and the clinical history of the participants.

DISCUSSION

We expected to find some differences between the inspirational and humorous story, as the former has the capacity to set an example moving individuals toward an open and brave approach in facing their health issues in a stigmatized body part, while the latter could be perceived as a rougher way to create a more relaxed and less embarrassing environment[8]. However, the humorous story appears as efficient as the inspirational story in nudging embarrassing health disclosure. Furthermore, as inspirational narratives usually recount in a more detailed manner how the problems were confronted and provide details about negative events, they indirectly could prime a sense of danger and further discomfort associated to the stigmatized body region. Actually, we found that Farrah Fawcett's story (the inspirational text) led to the perception in test subjects of their pelvic region as more vulnerable to stress, more sensitive and weaker. This perception could sensitize individuals about problems concerning this body part and to have a more responsible approach towards monitoring this region[2]. In addition, this change in perception could increase individuals empathy towards others that have problems in this body part. On the other hand, this increased awareness could add further negative sentiments, such as fear and avoidance, with respect to a body part which already easily evokes aversion. So if this increased vulnerability perception can ignite more awareness towards disease in this region and a more proactive approach in early treatment, it might have the double edged result of also producing anxiety and a feeling of danger concerning an area of the body already associated with negative emotions.

Humorous stories however seem to have the potential to mitigate the embarrassment associated with the most stigmatized body parts, to reduce negative emotions, and in encouraging positive and relaxed disclosure. The only precaution that emerges from the data concerns a part of the target audience; women associated a greater sense of dirtiness and roughness towards jokes. Given this fact, our recommendation is to create narratives that are humorous but that do not contain explicit references.

Even though the two body parts investigated are perceived differently, i.e. the anus is perceived as less important, more dirty, less good, more embarassing, less sexual, more disgusting, less erogenous, and more ugly than the genitals, it's interesting to note that the mitigation of the embarrassment as well as the promotion of disclosure had an effect on both body parts in question. Specifically, even though the humorous and the inspiration story concerned the anal region, it produced the same positive changes in perception and potential behaviour also about the genital body parts. In the end, by encouraging individuals to speak about their problems in the anal region it led them to also become more willing to speak about problems in the genital region. Further research could investigate if the same contagion effects are produced the other way around, more specifically by jokes highlighting genital parts. However, we suspect that given the fact that the genitals are perceived as cleaner and more important and are perceived in a more positive light than the anal region, that these spill over effects would not be easily found.

Verdi & Pietroni[2] found that, consistently with previous research[7], there were four factors that led individuals not to seek help including perception of areas as not important, stigmatized, not vulnerable, and sexualized. . Through a regression analysis we found that the second most important factor that inhibits help *seeking* is stigma, i.e. the association of the body parts with a sense of embarrassment, dirtiness, disgustingness and ugliness. It's reassuring that our nudge produced effects on this key factor without undermining the strength of the first one, i.e. the perception of importance of the body parts in question. Our concern was that perhaps a body part that is object of a joke could implicitly lead individuals to perceive it as less important, and consequently less deserving of health monitoring. Lastly, humorous stories seem to have the potential to be liberating without negatively impacting health disclosures of stigmatized regions.

Our studies do not allow us to generalize this claim to the most likely sensitive target, i.e. individuals who actually suffered severe health problems in the pelviperineal region and who could find the use of humorous story telling degrading. In fact, only 6 participants out of 154 (3 in the humorous condition) declared to have had a facial a surgery intervention. Our analysis did not show a different effect of the jokes on this factor but of course the statistical relevance is weak. However, a reassuring cue can be found observing that the 21,1% of participants which had at least a consultation with a specialist about health problems in the region did not respond differently towards both the inspirational and humorous stories compared to the rest of participants.

Our nudge worked maximally on the portion of the participants that was older. Meaning that the intervention produced the greatest effect on disclosure in the more mature individuals. This effect could be due to two factors: a greater sensitivity of this older group towards this type of intervention by providing a pretext to speak about this issue compared to younger people. Or on the other hand, perhaps young people have a strong aversion towards self-disclosure which makes soft facilitative interventions (like nudges) ineffective in overcoming their resistance towards open conversations concerning stigmatized body parts. This pessimistic suggestion could be hopefully confuted by future research focusing on producing more effective nudges geared specifically to different target audiences like young

women maybe through the use of group discussions and focus groups.

DISCLOSURE STATEMENTS

There was no conflict of interest, informed consent was obtained and the study was approved by the local ethical committee.

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APPENDIX

Behavioral science: the systematic analysis and investigation of human and animal behaviour through rigorous scientific experimentation.

Nudge: positive reinforcement and indirect suggestion/s to try to achieve non-forced compliance and gently influence the motives and decision making of groups and individuals.

Priming: an implicit memory effect in which exposure to one stimulus influences the response to another stimulus.

Storytelling: a universal means of entertainment, education, and cultural preservation, that aims to instill moral values and life lessons to the listener through a vivid oral illustration of significant events.

Subconscious clues: subtle messages that provide information and that impact the experiences of the receiver.

Correspondence to:
Davide Pietroni - Viale Pindaro 42 - Pescara 65100 Pescara - Italy
E-mail: pietroni@libero.it

Multidisciplinary Editorial Comment: the Physiotherapist

To improve the integration among the three segments of the pelvic floor, some of the articles published in *Pelviperineology* are commented on by **Urologists, Gynecologists, Proctologists/Colo Rectal Surgeons** or **other Specialists**, with their critical opinion and a teaching purpose. Differences, similarities and possible relationships between the data presented and what is known in the three fields of competence are stressed, or the absence of any analogy is indicated. The discussion is not a peer review, it concerns concepts, ideas, theories, not the methodology of the presentation.

The biggest challenge for a physical therapist who deals with pelvic floor issues is to make any direct physical contact with the body as minimally invasive as possible, not so much on the physical level as on an emotional level.

Hand contact is in fact frequently aimed at gaining awareness and therefore it takes time and there is the need to be physically in contact with the genital area and / or rectal area for thirty minutes during the session.

Telling stories or anecdotes even when handling these private parts makes the treatment more pleasant and provokes less of an emotional impact. Laughter plays down the sense of embarrassment given by the situation itself.

The body primarily benefits. The resulting muscle relaxation are proof of this.

On the other hand, telling inspirational stories can upset the individual and lead to the creation of additional fear, giving rise to questions such as: "could I also have that problem?".

We are not always able nor willing to tell our patients a joke, as described in the article, but often we simply make a few gags. For example, many times during an anal examination the patient tends to stiffen. Saying a phrase like: "I would like you to give me back my finger at the end of the visit" provokes a reaction of laughter and with it a release of the anal muscles.

The psychologists provide much food for thought for the physiotherapist. The article provides valuable insights, in particular, it focuses on a less "formal" way of relating that is more relaxed and comfortable. It stimulates the therapist to reduce the level of detachment and cultivates an attitude of empathy that takes into account not only the pathology of the person but also the emotions that are provoked as a result of it.

Stella De Chino
Pelvic floor physical therapist,
Schio, Vicenza, Italy
stelladechino@gmail.com