ORIGINAL RESEARCH

Exploring psychology and nursing students perceptions of disgust

Karen Ousey[1], Debbie Roberts *[2], John Stephenson[1]

[1] University of Huddersfield, Queensgate, Huddersfield, United Kingdom
[2] School of Healthcare Sciences, Bangor University, Wrexham, United Kingdom

Received: March 8, 2016 **Accepted:** May 26, 2016 **Online Published:** August 18, 2016
DOI: 10.5430/jnep.v7n1p17 **URL:** http://dx.doi.org/10.5430/jnep.v7n1p17

ABSTRACT

Objective: Practitioners can often experience feelings of disgust when exposed to malodorous wounds. This study reports on an investigation to measure a group of psychology and nursing students (n = 158) perceptions of disgust using the Disgust Scale-Revised questionnaire.
Methods: Data were collected via anonymous on line survey of 158 psychology and nursing students at two Universities in the UK between June and July 2015.
Results: Statistical analysis of the data revealed that the majority of the sample were female (97.3%) with nursing students being more resilient to disgust. Disgust scores diminished with increasing age. Psychology students are more sensitive to actual and perceived vulnerability to disease. Levels of perceived vulnerability falls with increasing age.
Discussion and conclusions: Nursing students undertake 50% of their pre-registration programme in clinical practice where they may have been exposed to potentially disgust provoking situations that may sensitize them to such situations. It is unclear whether their disgust diminishes because they become more tolerant, or accustomed to such situations or to other factors. Previous and repeated exposure to situations provoking disgust may however, explain why nursing student responses differ to their psychology counterparts. Nursing students are disgusted less easily than psychology students; although all individuals become slightly more tolerant to certain issues over time. Psychology students are significantly more sensitive to actual and perceived vulnerability to disease than nursing students. Perceived vulnerability falls with increasing age. In order to fully examine the impact of gender on disgust more research is required with a purposive sample.

Key Words: Disgust, Malodour, Odour, Nursing, Psychology, Students

1. INTRODUCTION

Clinical healthcare practitioners are exposed to a range of odours, including those exhibited from malodorous wounds that can lead to feelings of disgust. People diagnosed with a malignant wound often suffer with malodour that can result in a range of negative psychological outcomes for patients including body image alteration; denial; depression; embarrassment; fear; guilt; lack of self-respect and self-esteem; problems with sexual expression; revulsion or disgust.[1,2] The importance of a multi-disciplinary approach to managing malodour is essential to improve health related quality of life outcomes for patients; members of the multi-disciplinary team will need to include nurses, medical staff and psychologists. Although there is a plethora of research surrounding the concept of disgust,[3–6] little has been explored as to the reliability of validated tools in understanding how specific

*Correspondence: Debbie Roberts; Email: debbie.roberts@bangor.ac.uk; Address: School of Healthcare Sciences, Bangor University, Archimedes Centre, Wrexham, United Kingdom.

healthcare practitioners manage these feelings. This paper presents results of a study exploring the reliability of three previously validated tools examining how nursing students and psychology students respond to disgust.

1.1 Background

Disgust is typically measured by self-report[7] and is associated with nausea (parasympathetic autonomic response); and facial responses which includes the gape, retraction of the upper lip and wrinkling of the nose; together with qualia, or mental component of emotion sometimes described as revulsion.[7] Furthermore, it is suggested that typically decay and the odour of death are a trigger for feelings of disgust and it is thought that humans connect disgust to a fear of death. This fear is compounded when the fragile body envelope of the skin is breached and has serious implications for the work of nurses who must engage in caring for people with chronic wounds which often have a cycle of infection (odour), exudate and healing. Indeed the International Consensus guidelines for advanced breast cancer[8] state that, many people living with a wound often focus on priorities such as reducing pain or odour, covering up unsightly strikethrough or have concerns about wearing bulky dressings that prevent them from developing a feeling of wellbeing and can reduce quality of life. According to Fessler and Navarrete[9] sensitivity towards disgust is gender specific with women appearing to be more sensitive to disgust than men; further sensitivity amongst women fluctuates across the menstrual cycle. In nursing this phenomena has clear implications in a profession where women far outnumber men. Therefore this study will also seek to explore whether gender has any bearing on disgust.

1.2 Ethical approval

Ethical approval was successfully received from the University of Huddersfield, School of Human and Health Sciences Research Panel and Glyndwr University Ethics Committee. All participants were ensured anonymity and provided informed consent to participate. Data was stored securely on the University of Huddersfield secure server.

2. METHODS

Data were obtained from nursing and health and social science students (n = 158) from the University of Huddersfield and Glyndwr University between June 2015 and July 2015. Demographic data was recorded on study participants, including: educational institution, age, gender, year of study, and degree discipline. Participants completed the Disgust Scale-Revised (DS-R) questionnaire devised by Olatunji *et al.*[10] This is a 25-item measure which assesses disgust attitudes as "true" or "false", and also asks participants to rate how disgusting they find a number of experiences on a three-point scale from "not" to "very".

Exploratory analysis was undertaken on the data. Data distributions were inspected for the presence of outliers and excessive non-normality. Predictor variables were assessed for collinearity. Missing data was imputed following guidelines in the respective scale manuals.

General linear models were derived using scores from the outcome measure. Demographic characteristics recorded on participants were considered as predictors; variables including categories with low frequencies of responses were collapsed or removed from analysis as appropriate.

Initially models were derived including main effects and first-order interactions. Following standard procedures, any non-significant interactions were removed the model which was then recast including only remaining interactions and main effects only.

3. RESULTS

3.1 Descriptive summary of sample

One hundred and fifty eight health and social science students were recruited to the study from Huddersfield and Glyndwr Universities, with valid responses being received from 149 respondents. The majority of students were female psychology students attending the University of Huddersfield. The sample is summarised descriptively in Table 1.

Table 1. Descriptive summary of sample

Variable	Frequency (valid %)
University	
Huddersfield	127 (87.6)
Glyndwr	18 (12.4)
Gender	
Male	4 (2.7)
Female	145 (97.3)
Degree subject	
Psychology	116 (79.5)
Nursing: adult branch	12 (8.2)
Nursing: child branch	5 (3.4)
Nursing: learning disability branch	4 (2.7)
Nursing: mental health branch	9 (6.2)
Year of study	
1st year	42 (28.2)
2nd year	93 (62.4)
3rd year	14 (9.4)
Variable	Mean (SD; range)
Age (years)	23.3 (7.42; 18-59)
Disgust Scale (Revised) score*	65.9 (13.8; 33-100)

*Range of possible scores: 25-125

Visual inspection of data found no instances of outliers or excessive non-normality. No collinearity between predictor variables was revealed. Due to low frequencies of students attending Glyndwr University, and low frequencies of male students in the sample, between-site and between-gender comparative analyses were not conducted. Due to low frequencies recorded in some sub-fields of nursing practice in the item eliciting degree discipline, all fields of practice of nursing students were agglomerated into a single category. Due to low frequencies of 3rd year students in the sample, these students were merged with 2nd year students in the year of study variable.

3.2 Analysis of DS-R scores

A univariate analysis conducted on DS-R scores found degree discipline and age, controlling for year of study, to be significantly associated with DS-R scores ($F(1,141) = 20.8$, $p < .001$ for degree discipline; $F(1,141) = 4.30$, $p = .040$ for age). Year of study was not significantly associated with DS-R scores, controlling for degree discipline and age ($F(1,141) = 0.233$, $p = .630$). A main effects analysis was conducted following deletion of non-significant interactions.

The mean DS-R score obtained by psychology students was 68.9 (SD = 12.7). The mean DS-R score obtained by nursing students was 54.8 (SD = 12.3). Hence psychology students scored about 14.5 points more on the DS-R scale than nursing students, controlling for age and year of study. The effect size for degree discipline was moderate (partial-$\eta^2 = 0.128$). Each year of increasing age was associated with a reduction of DS-R scores by 0.324 points (SD = 0.156). The effect size for age was small (partial-$\eta^2 = 0$ .030).

4. Discussion

The response to disgust is both physical and psychological. The previously validated DS-R tool is both robust and reliable when used with psychology and nursing students. The data has identified that psychology students appear to be significantly more easily disgusted than nursing students. Individuals views regarding contamination are "shaped as an adaptation for disease avoidance, but responses operate largely independently of conscious beliefs about disease".[7] The reason for nursing students being more resilient to disgust may be due to the fact that they are exposed to the realities of clinical practice, that is are caring for a range of patients who may be incontinent, may have ostomy's excreting waste products, may have a malodorous wound, be palliative or at end of life throughout their 3 year educational programme. As Grimshaw and Walther-Hansen[11] point out we have no built-in bodily mechanism that allows us to exclude these stimuli from perception; and often smells are disgusting. These students therefore may have been exposed to a greater range of disgust provoking situations; but it is unclear whether their disgust diminished because they become more tolerant, or accustomed to such situations or other factors. However the disgust scores do reduce as age increases suggesting that individuals generally become more tolerant over time. Previous work highlights the importance for nurses to use all their senses[12] but the impact of malodour on nursing practice has to date been largely overlooked. For example, it is unknown whether nurses are able to draw on strategies to minimise their expression of disgust; or have found ways to manage their response to disgust.

Within both the nursing and psychology groups, levels of perceived vulnerability fell slightly with increasing age; possibly due to increased exposure to clinical environments, leading to more realistic expectations of contagion. The notion of contagion and purity is explored by Lindhal, Gilje, Norberg and Soderberg[13] who interviewed retired nurses in Sweden and found that nurses strove for purity by preserving cleanliness, order and a clear conscience when caring for individuals with malodorous exuding wounds. This would suggest that sensitivity to disgust does not diminish over time; whereas the findings from the study reported here on a larger population of students would refute this.

Whilst the research intended to explore the impact of gender on disgust, the sample recruited does not allow any equivocal conclusions regarding gender to be drawn. This may require further research using purposive sampling methods to achieve a more balanced gender study population.

5. Conclusions

Psychology students appear to be significantly more easily disgusted than nursing students–possibly because psychology students do not work in clinics or hospitals, unlike nursing students, who are exposed to, *e.g.*, flesh wounds, bodily odours *etc.*, and may develop more immunity to these issues. There is a slight tendency for disgust scores to go down as age increases–*i.e.*, all individuals become slightly more tolerant to certain issues over time. No differences on any scale were observed between students from different year groups. Whilst the data shows the perceptions against the items in the instruments; it does not tell us anything about how disgust might be manifest in the real world; or whether there are any strategies used by individuals to mask their expressive component of disgust. This aspect of smell and response to malodour in relation to learning to be a nurse in particular deserves further research and consideration.

Conflicts of Interest Disclosure

The authors declare that there is no conflict of interest.

REFERENCES

[1] Naylor W. Malignant wounds: aetiology and principles of management. Nurs Stand. 2002; 16(52): 45-53. PMid:12271616 http://dx.doi.org/10.7748/ns2002.09.16.52.45.c3266

[2] Grocott P. Care of patients with fungating malignant wounds. Nurs Stand. 2007; 21: 57-58, 60, 62. PMid:17345910

[3] Haidt J, McCauley CR, Rozin P. Individual differences in sensitivity to disgust: A scale sampling seven domains of disgust elicitors. Person. Individ. Diff. 1994; 16(5): 701-713. http://dx.doi.org/10.1016/0191-8869(94)90212-7

[4] Rozin P, Fallon A. A perspective on disgust. Psychological Review. 1987; 94: 23-41. PMid:3823304 http://dx.doi.org/10.1037/0033-295X.94.1.23

[5] Davey G. Applied psychology. Part One. John Wiley & Sons. UK. 2011.

[6] Muris P, van der Heiden S, Rassin E. Disgust sensitivity and psychopathological symptoms in non-clinical children. J Behav Ther Exp Psychiatry. 2008; 39(2): 133-146. PMid:17433251 http://dx.doi.org/10.1016/j.jbtep.2007.02.001

[7] Rozin P, Haidt J, McCauley CR. Chapter 47: Disgust. In Lewis M., Haviland-Jones, JM and Barrett, LF. (Eds) Handbook of emotions, 3rd Ed. New York: Guilford Press; 2008.

[8] Cardoso F, Costa A, Norton L, *et al.* 1st International consensus guidelines for advanced breast cancer (ABC 1). The Breast. 2012; 21(3): 242-252. PMid:22425534 http://dx.doi.org/10.1016/j.breast.2012.03.003

[9] Fessler DMT, Navarrete CD. Domain-specific variation in disgust sensitivity across the menstrual cycle. Evolution and Human Behavior. 2003; 24: 406-417. http://dx.doi.org/10.1016/S1090-5138(03)00054-0

[10] Olatunji BO, Tolin DF, Sawchuk CN, *et al.* The Disgust Scale: Item Analysis, Factor Structure, and Suggestions for Refinement Psychological Assessment. 2007; 19(3): 281-297. PMid:17845120

[11] Grimshaw M, Walther-Hansen M. The Sound of the Smell of my Shoes. Proceedings of the Audio Mostly 2015 on Interaction with Sound conference. Audio Mostly (Association for Computing Machinery). 2015. http://dx.doi.org/10.1145/2814895.2814900

[12] Roberts D, Roberts NJ. Maximising sensory learning through immersive education. Journal of Nursing Education and Practice. 2014; 4(10): 74-79. http://dx.doi.org/10.5430/jnep.v4n10p74

[13] Lindhal E, Gilje F, Norberg A, *et al.* Nurses' ethical reflections on caring for people with malodorous exuding ulcers. Nurs Ethics. 2010; 17: 777. PMid:21097976 http://dx.doi.org/10.1177/0969733010379181