
Scared to Lose Control? General and Health Locus of Control in Females With a Phobia of Vomiting



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The term *emetophobia* (i.e., a fear of vomiting) exists as rather an elusive predicament, often eluding conventional treatment. The present study involved 149 participants, consisting of 51 emetophobics, 48 phobic controls (i.e. those who suffered from a different phobia), and 50 nonphobic controls. Participants were administered the Rotter (1966) Locus of Control Scale and the Health Locus of Control Scale by B.S. Wallston, Wallston, Kaplan, and Maides (1976). Significant differences were found among the three groups; specifically, that emetophobics had a significantly higher internal Locus of Control Scale score with regard to both general and health-related issues than did the two control groups. It is suggested that vomiting phobics may have a fear of losing control, and that their vomiting phobia is reflective of this alternative, underlying problem. More research is required to explore the association between emetophobia and issues surrounding control; however, the current study suggests that it may be helpful for therapists to consider this aspect when treating a patient with vomiting phobia. © 2007 Wiley Periodicals, Inc. *J Clin Psychol* 64: 30–39, 2008.

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Introduction

Broadly defined, the term *phobia* describes a common anxiety disorder characterized by a persistent fear reaction that is acutely out of proportion to the reality of the danger. Frequently, the phobia is focused on some specific stimulus or event, and in some severe cases, it can interfere with the person's entire life (Rosenhan & Seligman, 1995). Almost anything can act as the subject of a phobia, characterized usually as either a specific or "monosymptomatic" phobia referring, for example, to heights or cats; a social phobia referring, for example, to public speaking or restaurant dining; or agoraphobia referring, for example, to public places or crowds.

The term *emetophobia* relates to the fear of vomiting, and although largely unheard of outside the medical nomenclature, its prevalence affects many individuals worldwide. Consequences on everyday life can vary from minimal to extreme, and despite the motivation of the person to seek treatment; success stories of those effectively cured are uncommon and sporadic in the literature (Bouman & van Hout, 2006; Moran, 2005). Emetophobia is a chronic disorder of early onset, relaying symptoms that are highly persistent and intrusive in nature, which are distressing on a daily basis (Lipsitz, Fyer, Paterniti & Klein, 2001). There is significant overlap in the cognitive processes and behaviors with those of panic disorder, such as selective attention and vigilance; in the case of emetophobia, for nausea and vomiting. In addition, there also is a significant overlap in the phenomenology with that of obsessive compulsive disorder, such as fear of contamination (Veale & Lambrou, 2006). Such characteristics of fear, triggered by both internal and external stimuli, comprising, for example, the sight of another person vomiting, or nausea, tend to affect individuals with regard to their social, home-marital, and occupational functioning. The condition also can significantly restrict leisure activities, which may impact on personal well-being. Almost half of all female emetophobics avoid or delay becoming pregnant, signifying a serious impact upon their life pattern (Lipsitz et al., 2001).

Systematic desensitization presents patients with increasing intensities of their feared object or situation which, when accompanied by relaxation, usually leads to extinction of the fear response. There are various practical and ethical problems associated with exposure to vomiting as a method of treatment in emetophobia (Veale & Lambrou, 2006), as most would regard inducing emesis as harm, contravening the basic principle of doing no harm. In addition, anecdotal evidence from an Internet support group for emetophobics, which has been established and operating for several years, reported no successful instances of desensitization therapy for those who feared themselves vomiting despite many members reportedly having attempted it (Listserv, 2003). Listserv is an area on the Internet that hosts forum groups, and the Emetophobia Support Group was one such group. To gain access to the group, a person would be required to e-mail the list owners (emetophobia@listserv.icors.org) with his or her personal story; if the story was deemed to be genuine, then they would be able to join the group and participate in the group discussion. For those emetophobics who also were fearful of coming into contact with vomit, desensitization was reported to result in marked improvement for this aspect of their problem, but the fear of vomiting still existed. It would therefore appear that some factor, innate to the act of vomiting, might have an important role in the persistence of emetophobia despite appropriate intervention.

Locus of control was a very influential topic within psychology research in the 1970s and 1980s. The Rotter (1966) I-E Locus of Control Scale measures an

individual's attribution of control as being either internal (I) or external (E). Those endorsing a predominantly internal locus of control regard events as being within their influence whereas those endorsing a predominantly external locus of control regard events to be mainly outside their jurisdiction. There is significant evidence that anxiety and depression are associated with an external locus of control (Burger, 1984; Dyal, 1984; Ganellen & Blaney, 1984; Joe, 1971; Molinari & Khann, 1981; Strickland, 1977), and that patients with major depression, social phobia, mixed anxiety depressive disorder, and panic disorder also have significantly greater external Locus of Control Scale scores as compared to a control group (Kennedy, Lynch & Schwab, 1998). There is a clear gap in the literature regarding emetophobia and its treatment. To date, no one has examined the relationship between emetophobia and locus of control. Having studied the anecdotal reports of members of an online support group for emetophobia (Listserv, 2003), it appears that many report a fear of losing control, which may underlie their emetophobia.

The present research aimed to investigate an association between emetophobia and an internal locus of control. Emetophobics may be different from those with other anxiety and depressive disorders in that emetophobics may have an internal locus of control. This internal locus of control may serve to maintain their emetophobia by contributing to a fear of losing control. It was hypothesized that emetophobics would have an internal locus of control, contrary to other anxiety and depressive disorders.

Rotter's (1966) Locus of Control Scale was used to ascertain whether emetophobic participants endorsed a significantly higher internal Locus of Control score compared to both phobic and nonphobic controls. In addition, B.S. Wallston et al. (1976) developed and validated the Health Locus of Control Scale, deeming it an area-specific measure of expectancies regarding locus of control formed for prediction of health-related behavior. This latter scale was presumed to be a more sensitive measure of locus of control in emetophobics. Use of both scales allowed us to determine whether an internal health locus of control is exclusively or inclusively implicated in emetophobia (if indeed at all), alongside Rotter's measurement of a general locus of control.

Method

Participants

The demographic characteristics of all participants, according to the three groups, are summarized in Table 1.

Emetophobic participants. Participants were recruited through contact on the Emetophobia Internet Group. They were requested to volunteer and complete a questionnaire for a study about emetophobia. All interested members e-mailed the first author, and a reply was sent which included both the Locus of Control Scale and the Health Locus of Control Scale in Microsoft Word documents. The scales were completed and then returned by e-mail. The emetophobic group was comprised of 51 female participants, with a mean age of 31.56 years (range = 15–70). A majority (i.e., $n = 31$) of the participants were American, 14 were British, 3 were Australian, and 3 were Other European. Eleven participants were full-time students, although of the remaining participants, 30 had completed higher education and were employed in teaching, management consultancy, translation, or law, and 1 participant was a clinical psychologist. Nineteen participants reported no additional

Table 1
Demographic Data of the Participants

	Emetophobics (<i>n</i> = 51)	Phobic controls (<i>n</i> = 48)	Nonphobic controls (<i>n</i> = 50)
Mean age (years)	31.56 (range = 15–70)	23.44 (range = 17–57)	20.89 (range = 17–57)
Nationality			
American	31 (60.8%)	2 (4.2%)	0 (0%)
British/Irish	14 (27.4%)	46 (95.8%)	50 (100%)
Other	6 (11.8%)	0 (0%)	0 (0%)
Full-time students	11 (21.6%)	37 (72.5%)	42 (82.4%)
Full-time employment	40 (78.4%)	11 (27.5%)	8 (17.6%)

phobias besides emetophobia; of the remaining 32 participants, half stated that they had phobias (e.g., fear of germs and fear of hospitals) resulting directly from their emetophobic symptoms. Ensuing arbitrary phobias ranged from spiders and enclosed spaces to heights and water; 9 participants listed phobias entailing a loss of physical control including epileptic fits, fainting, and paralysis. Based on their responses to the questionnaire, almost half of the emetophobic participants suffered additional self-reported mental health problems—the most common of which were generalized anxiety disorder and obsessive compulsive disorder, although many regarded the latter as a direct result of their emetophobia. Of the remaining self-reported problems, panic disorder and depression were common, and 4 participants presented as suffering from anorexia nervosa.

Phobic control participants. The phobic control group yielded 48 female participants who were obtained by canvassing student halls of residence and University lecture classes, and asking for volunteers to fill out a questionnaire. This generated the majority of the control participants' data, although some were distributed among a range of workplaces such as included hospitals and companies. A short explanation was given to the participants, which stated that the results were to be collected for a study on vomiting phobia. The participants were instructed both orally and via explanations detailed on the front of the questionnaire booklets to work through the scales independently, allowing approximately 15 min for completion, with the results gathered immediately thereafter along with short debriefing. A minority of control group participants were located via e-mail following word-of-mouth from other participants, resulting in a willingness to participate. In these circumstances, an identical questionnaire was e-mailed as a Microsoft Word document attachment, with responses collected in the equivalent manner.

The mean age of the participants was 23.44 years (range = 17–57). Most participants were either British or Irish, with the exception of 2 American participants. Although the majority were students at the University of Dundee, 11 participants held full-time jobs that ranged from administrative assistant to auxiliary nurse. Their phobias were characterized by a wide range, provided in descending order of endorsement: heights, spiders, enclosed spaces, mice, snakes, needles, water, wasps, the dark, vampires, flying, and birds.

Nonphobic control participants. The nonphobic control participants were recruited the same way as the phobic control group (i.e., following lectures and by canvassing halls of residences). This yielded 50 female participants, with a mean age of 20.89 years (range = 17–57). All participants were either British or Irish, and 42

were students at the University of Dundee. The remaining 8 participants held various full-time jobs ranging from health advisor to accountant.

Measures

The materials utilized in this study consisted primarily of (a) a battery of scales produced in one questionnaire, and (b) information gathered via the Internet since the majority of emetophobic participants were contacted and communication was maintained via e-mail. The following information was included in the questionnaire: Rotter's Locus of Control Scale (Rotter, 1966), the Health Locus of Control Scale (B. S. Wallston et al., 1976), and the final page of the questionnaire requesting each participant's general information.

While the majority of phobic and nonphobic control participants were provided manually with a hard copy of the questionnaire on paper to complete, the majority of emetophobic participants were provided electronically with the questionnaire via e-mail. Response occurred by the same means.

Rotter's Locus of Control Scale (Rotter, 1966). This scale consists of 23 pairs of statements, one of which contains an external control scenario and the other an internal control scenario. For each pair, the participant was instructed to choose the one statement that they feel they more strongly believe to be the case. When analyzing the results, it is possible to add up either the number of internally endorsed items or the number of externally endorsed items. As the hypotheses of the present study relate to an internal locus of control, numbers of internal statements were calculated for each individual and analyzed, producing a measure of internal locus of control for each participant. Numerous studies have supported the validity, stability, and accuracy of this measure vis-à-vis its psychometric properties (see Zerega, Tseng & Greever, 1976).

Health Locus of Control Scale (B.S. Wallston et al., 1976). This scale consists of 11 health-related statements such as "If I take care of myself, I can avoid illness" (which is an example of an internal locus of control item), and participants are asked to rate how much they agree or disagree on a Likert scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Five items relate to an internal locus of control, and six to an external locus of control. This scale is used extensively in health settings, and there is extensive published literature to suggest that psychometric properties of the scale are sound in that they are able to measure a person's health locus of control beliefs (K.A. Wallston, 2005). Again, as the hypotheses relate to an internal locus of control, only the results of the internally worded items were included in the results of this article.

General information requested from the participants was age, gender, occupation, list of self-reported phobias, and nationality. In addition, the emetophobics were invited to include any additional self-reported mental health problems. The general information questions were required so that a better understanding regarding the broad characteristics of each of the participant groups be obtained and to ensure no major discrepancies prevailed that could confound the results.

Procedure

The current study used a between-subjects design in which emetophobic, phobic control, and nonphobic control groups were compared on internal and health locus of control.

The support group was found by an Internet search using the *Google* search engine; subsequently, the list owners were contacted to gain access to the support

group (More detailed joining instructions are contained earlier in this section.), and an offer of support for a study concerning vomiting was received from its members. It was explained to all participants that the study of emetophobia was the focus of the research project and that a full explanation of the various hypotheses would be provided after data collection. Prospective participants were requested to provide the first author with their e-mail addresses, where again—in common with the minority of control participants—an electronic version of the questionnaire was sent as a Microsoft Word document e-mail attachment. Participants were instructed to return the completed document by the same means. Upon collection of all responses, full debriefing occurred via e-mail. As this study was based at a U.K. university, it was given approval by that institution's Ethics Committee.

Although male participants were originally invited to participate in the study, only 3 emetophobic males responded; it therefore was determined that only female participants should be assessed since unequal ratios between the three groups would likely confound the results.

Following accumulation of the data from all three groups, means and standard deviations were calculated on the appropriate scores of both scales, classified by emetophobic, phobic control, and nonphobic control groups. Analyses of Variance (ANOVAs) were conducted, fundamentally to determine whether any significant effects of the independent variables existed. Where this was so, post hoc Scheffe tests were administered to locate specific significant differences between the individual pairs of groups tested.

Results

The initial scale administered to participants was Rotter's Locus of Control (LoC). Table 2 provides these scores for emetophobics, phobic controls, and nonphobic controls.

A between-groups, one-way ANOVA was conducted on the internal LoC scores, with the results also summarized in Table 2. The main effects of group on internal LoC scores were significant at the $p < .01$ level. Post hoc Scheffe tests revealed that internal LoC scores were significantly greater for emetophobics, as compared to phobic controls (M difference = 4.64, $SE = 0.86$, $p < .01$), and as compared to nonphobic controls (M difference = 4.40, $SE = 0.85$, $p < .01$). Internal LoC scores were found not to differ significantly between phobic and nonphobic controls (M difference = -0.24 , $SE = 0.86$, $p = n.s.$).

Table 2
Means, SDs, and Between-Group Comparisons on the Rotter Locus of Control Scale and Health Locus of Control Scale

	Emetophobics ($n = 51$)	Phobic controls ($n = 48$)	Nonphobic controls ($n = 50$)
Measure	M (SD)	M (SD)	M (SD)
Rotter Locus of Control Scores ^a	13.10 (4.33)	8.46 (3.86)	8.70 (4.56)
Health Locus of Control Scores ^b	3.01 (0.65)	2.37 (0.61)	2.44 (0.65)

^aBetween-groups ANOVA: $F = 18.82$, $p < .01$.

^bBetween-groups ANOVA: $F = 15.45$, $p < .01$.

The second scale administered was the Health LoC scale. Mean scores provided in terms of the 6-point scale, along with their corresponding standard deviations, are provided in Table 2 for emetophobics, phobic controls, and nonphobic controls. Only the scores relating to internal LoC are reported.

A between-groups, one-way ANOVA was conducted on the Health LoC Scale scores, with results summarized in Table 2. The main effects of group on the Health LoC Scale scores were significant at the $p < .01$ level. Scheffe tests revealed that internal Health LoC Scale scores were significantly greater for emetophobics, as compared to phobic controls (M difference = 0.64, $SE = 0.13$, $p < .01$). Health LoC Scale scores were significantly greater for emetophobics, as compared to nonphobic controls (M difference = 0.57, $SE = 0.13$, $p < .01$). Health LoC Scale scores were found not to differ significantly between phobic and nonphobic controls (M difference = -0.07 , $SE = 0.13$; $p = n.s.$).

Discussion

The present results suggest that emetophobia is associated with issues surrounding locus of control. Most compellingly, not only did emetophobics endorse a much greater internal locus of control with regard specifically to health issues than did their phobic and nonphobic counterparts but emetophobics also endorsed a much greater internal locus of control with regard to general issues. While controls both with and without phobias yielded similar results, emetophobics considered most aspects of their lives to be within their power and under their own command to a greater degree than the nonemetophobics, as was hypothesized. While an internal locus of control may have been more readily expected with regard to health locus of control, especially since many emetophobics report a regular ability to control vomiting, what is perhaps most compelling was the clear contention within emetophobics that general events in life are also within their control. Although not related directly to emetophobia, this nonetheless appears a significant trait within the condition perhaps fueling one of emetophobia's perpetuating features: that of the need to have a feeling of control over all aspects of their lives.

It seems that emetophobics have a greater propensity to become anxious regarding health-related issues than do nonemetophobics, but this level of anxiety permeates across to other aspects of general living. Solomon, Holmes, and McCaul (1980) investigated the relationship between anxiety and the ability to exert control over an aversive event (i.e., the participant being threatened with the administration of electric shocks). The findings indicated that a decrease in anxiety, similar to that detected in those to whom no threat was posed, occurred in those only for whom exerting control over an aversive event was easy and did not require too much effort to exert. Participants for whom control was difficult to exercise reported a level of anxiety concurrent with that experienced by those who could exert no control over the identical aversive event. This highlighted primarily that control must be relatively easy to achieve before anxiety surrounding abhorrent events can decrease. In addition, such an ability to exercise control reduced physiological arousal exclusively in the anticipatory period leading up to the event; however, during the actual exercising of control over an aversive event, physiological arousal was not reduced. Thus, it would seem that in certain circumstances, exercising control in dangerous or unpleasant situations can increase physiological arousal such that it overrides any initial advantage gained in the ability to take charge of a situation (Solomon et al., 1980).

Solomon et al. (1980) reasoned that in addition to control being difficult to exercise and thus failing to reduce stress, so also does the controlling of an aversive situation whereby most of the time is spent confronting or controlling rather than anticipating. This would appear especially relevant in the case of emetophobia, whereby considerable effort is indeed required to manage the situation (i.e., prevention of vomiting), which is a violent bodily reflex not experienced passively (Andrews, 1992). The principle symptoms of emetophobia may arise from the fact that since such patients fear losing control, they instead strive excessively to retain command over a physical event which is naturally very difficult to control. In line with Solomon et al.'s (1980) argument, the arousal subsequently generated is thus greater than that created when no control exists, and although giving up would be the adaptive choice; emetophobics appear completely unable to negate their insatiable desire for the maintenance of control.

There exist three related features within learned helplessness: (a) an environment in which some important outcome is beyond control, (b) the response of giving up, and (c) the supplementary cognition which relates to the expectation that no voluntary action can control the outcome (Seligman, 1992). It could be postulated that emetophobics have an internal locus of control, reasoning events in life to be within their power. It is therefore hypothesized that emetophobics may have an intense fear of losing such control, as happens during the act of vomiting.

The present study was not without its flaws, and as the study developed, various methodological issues arose which require consideration. Perhaps the greatest problem was the disparity in demographic circumstances between the controls (both phobic and nonphobic) and the emetophobics. A much greater proportion of controls compared to the emetophobics were students, although around 50% of the emetophobics had completed higher education. In addition, there was a significant age gap between controls and emetophobics whereby, on average, emetophobics were approximately 10 years older. While the majority of emetophobics were American, most of the controls were British or Irish. Such issues may have confounded the results since life experience may induce to an extent an increased internal locus of control as individuals begin to take increasing charge of their future.

The Internet is well recognized as a valuable resource for conducting research into psychiatric disorders (Childress & Asamen, 1998; Stones & Perry, 1997), although support for the use of multidimensional scales on the Internet is weak (Hewson & Charlton, 2005). A recent study did however find that Internet administration of the Multidimensional Health Locus of Control scale yielded data that were found to be at least as good as that of paper data (Hewson & Charlton, 2005). Note that two different methods were adopted to collect the present data, whereby the majority of data from emetophobics was collected electronically via the Internet and the majority of data from the controls was collected via paper copies of the study. The emetophobics therefore had no anonymity when submitting their results.

Conclusion

This research has provided the basis for a range of future work to gain a thorough insight into, and comprehension of, vomiting phobia and its association with an internal locus of control.

Two fundamental traits of emetophobics arose from the current study: an internal locus of control regarding both general and health-related issues. This article aimed

to introduce control as a significant factor in emetophobia, about which future research is required to build a more comprehensive framework of its predisposing, precipitating, and perhaps most importantly, perpetuating factors. Thus far, it seems reasonable to stipulate that individuals with a vomiting phobia deem events as being within their control and may therefore find it difficult to relinquish this control during the act of vomiting, thus inducing a phobia. As a starting point, it may be useful for therapists to consider pathological issues related to control in cases of vomiting phobia. Future research could further explore the association between fear of vomiting and control.

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