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## Cognition & Emotion

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/pcem20>

### Conservatives are more easily disgusted than liberals

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Version of record first published: 13 May 2009.

To cite this article: Yoel Inbar, David A. Pizarro & Paul Bloom (2009): Conservatives are more easily disgusted than liberals, *Cognition & Emotion*, 23:4, 714-725

To link to this article: <http://dx.doi.org/10.1080/02699930802110007>

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## Conservatives are more easily disgusted than liberals

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The uniquely human emotion of disgust is intimately connected to morality in many, perhaps all, cultures (Rozin, Lowery, Imada, & Haidt, 1999b). We report two studies suggesting that a predisposition to feel disgust (“disgust sensitivity”) is associated with more conservative political attitudes, especially for issues related to the moral dimension of purity. In the first study, we document a positive correlation between disgust sensitivity and self-reported conservatism in a broad sample of US adults. In Study 2 we show that while disgust sensitivity is associated with more conservative attitudes on a range of political issues, this relationship is strongest for purity-related issues—specifically, abortion and gay marriage.

Disgust is a peculiar emotion, readily elicited by a simple smell, sound, sight, or even word. As Miller (1997) observed, it’s difficult to even talk about disgust without becoming disgusted—the mere thought of disgust elicitors such as maggots, pus, or putrid meat can turn one’s stomach. Although disgust may have evolved in order to discourage us from ingesting noxious or dangerous substances, the emotion has come to play a much broader role in our social lives. Rather than arising solely as a reaction to noxious stimuli, disgust is also intimately involved in shaping moral perceptions of specific groups and acts (Bloom, 2004a; Miller, 1997; Rozin, Haidt, & McCauley, 2000).

Disgust seems to be particularly implicated in many of our moral judgements (Rozin, Lowery, Imada, & Haidt, 1999b). But *should* disgust play any role in these judgements? According to many liberal, educated Westerners, the answer is no. Whether a practice or behaviour is considered morally palatable or reprehensible should depend on whether that behaviour

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The authors thank Zachary Burns and Shannon Crater for their help collecting data, and Clayton Critcher, Tom Gilovich, and Jon Haidt for their comments on earlier versions of the manuscript.

harms or infringements on the rights of another individual; disgusting but harmless behaviours do not deserve moral condemnation (Haidt, Koller, & Dias, 1993). According to this view, consuming faecal matter, engaging in sexual intercourse with animals, or masturbating to pornography is not immoral, as long as no other people are harmed by one's behaviour (Bloom, 2004b).

However, this view of disgusting acts as morally innocuous is a fairly recent invention. The vast majority of cultures, past and present, have recognised purity as an important moral dimension. Behaviours that are seen as degrading, defiling, or unnatural reduce purity and are thus immoral even if they do not harm oneself or others. Therefore, disgust—the emotion most often elicited by breaches of purity—is seen as morally relevant and informative (Rozin et al., 1999b).

This view of purity as a moral virtue, and of disgust as a morally relevant emotion, is common even in Western democracies. A large majority of working-class Philadelphia adults surveyed by Haidt et al. (1993) thought that disgusting but harmless behaviours—such as buying a dead chicken, having sex with it, and then eating it for dinner—were morally wrong. Likewise, college undergraduates surveyed by Nichols (2002) viewed disgusting behaviours, such as spitting in a glass of water and drinking it, as less permissible than non-disgusting violations of convention, such as drinking soup out of one's bowl at a dinner party.

Given the important role that disgust plays in many people's moral judgements and beliefs, is it possible that individual differences in the propensity to experience disgust might be associated with systematic differences in moral ideologies? Some have argued that differing conceptions of what classes of behaviours properly belong in the moral domain are the fundamental cause of the heated and seemingly intractable disagreement between political liberals and conservatives (Haidt & Graham, 2007; Lakoff, 2002). According to Haidt and Graham (2007), for instance, political conservatives, in contrast to liberals, see the maintenance of purity as an inherent moral good and thus regard disgust, the consequence of violations of purity, as a morally relevant emotion.

Leon Kass, a noted conservative bioethicist, has argued for what he calls “the wisdom of repugnance”. According to Kass, disgust at a practice such as human cloning can be “the emotional expression of deep wisdom, beyond wisdom's power completely to articulate it” (Kass, 2001). Similarly, self-described conservatives surveyed by Haidt and Graham (2007) said that whether “someone did something disgusting” was quite relevant to deciding that an action was right or wrong, a view that was not shared by self-described liberals.

These findings point to the possibility that conservatives are more likely than liberals to experience disgust in response to *specific behaviours* that

violate ideals of purity. However, in the current research, we wished to explore whether there is a broader relationship between disgust and political ideology—that is, whether a *general disposition* to feel disgusted by a variety of stimuli, including non-social stimuli, is associated with conservatism. As disgust seems to be an important component of the moral and political views of many conservatives, it is plausible to suppose that a heightened general proclivity to feel disgust might be associated with more conservative views. For example, Kass reacts with disgust not only to controversial practices such as human cloning, but also to more widely accepted practices, such as public consumption of ice cream cones: “Worst of all [. . .] are those more uncivilized forms of eating, like licking an ice cream cone—a catlike activity that has been made acceptable in informal America but that still offends those who know why eating in public is offensive” (Kass, 1994, p. 148).

Thus, we predicted that a general disposition to feel disgust in a variety of situations would be associated with greater self-reported conservatism as well as more conservative views on specific political issues. To measure differences in dispositional disgust, we used the Disgust Sensitivity Scale (DSS; Haidt, McCauley, & Rozin, 1994). The DSS assesses sensitivity to disgust in a wide variety of domains, including core disgust (e.g., faeces, rotting meat, bodily secretions); death, blood, and gore; and unusual sexual practices (e.g., incest, zoophilia). Past research has demonstrated that DSS scores are stable over time and that they predict people’s willingness to perform actual disgusting actions (Rozin, Haidt, McCauley, Dunlop, & Ashmore, 1999a).

We obtained initial support for our hypothesis in a pilot study in which 82 UC Irvine undergraduates completed the 8-item short form of the DSS (Haidt, 2004); a political orientation measure that asked participants to indicate their political ideology on a bipolar scale anchored by *Very Liberal* and *Very Conservative*; and a variety of other, unrelated questionnaires. In this study, disgust sensitivity was positively correlated with self-reported conservatism,  $r(82) = .29$ ,  $p = .01$ .

## STUDY 1

Our pilot study established an association between disgust sensitivity and political conservatism. However, this study used a convenience sample of university undergraduates, limiting the generality of the effect. Participants in Study 1 were a much broader sample of US adults who varied widely in age, income, and political and religious affiliation. This allowed us to investigate whether the link between disgust sensitivity and conservatism is limited to university undergraduates or whether it is also present in a more demographically diverse sample.

Additionally, we wished to examine whether any of our demographic variables could explain the relationship between disgust sensitivity and conservatism. In particular, since concerns with purity and contamination are often important components of religious belief and practice (Shweder, Much, Mahapatra, & Park, 1997), we wished to investigate whether members of particular religions might be both more disgust sensitive and more conservative, explaining the disgust sensitivity–conservatism link.

## Method

Participants were 181 US adults (99 female), who completed the study at their convenience by logging onto an Internet web site (www.zoomerang.com). Participants in this study were part of an opt-in panel of respondents recruited by Zoomerang (an online survey service that caters to educational, non-profit, and market research), who complete surveys regularly in exchange for monetary compensation. In this case, participants were selected on the basis of their geographical location (primarily from the four “swing states” in the 2004 US Presidential election).

As in the pilot study, participants completed the 8-item short form of the DSS, which consists of two sections: In the first, participants are asked to rate their agreement with four disgust-related statements (e.g., “I try to avoid letting any part of my body touch the toilet seat in a public restroom, even when it appears clean”) on a 4-point scale anchored by “*Strongly disagree (very untrue about me)*” and “*Strongly agree (very true about me)*”. In the second section, participants are asked to indicate how disgusting they would find four different events (e.g., “You take a sip of soda and then realise that you picked up the wrong can, which a stranger had been drinking out of”) on a 4-point scale anchored by “*Not disgusting at all*” and “*Very disgusting*”. An overall disgust sensitivity score is computed by averaging participants’ responses to the eight items, so that scores can range from 1 to 4.

Participants also completed the same measure of political orientation used in the pilot study, as well as a number of demographic measures.

## Results

*Gender.* As is typical (Druschel & Sherman, 1999; Haidt et al., 1994), women were more disgust sensitive than men,  $M_s = 2.66$  and  $2.45$ , respectively;  $t(179) = 2.40$ ,  $p < .02$ ,  $d = 0.36$ . Thus, all subsequent analyses in this study and in Study 2 include gender as a covariate. There were no interactions involving gender in either of the studies.

*Demographics.* Participants were asked demographic questions on age, income, religious affiliation, and political party membership. Sixty-seven participants (37%) were between 25 and 49 years old; 106 (59%) were

between 50 and 75; and 8 (4%) were older than 75. Thirty-five participants (19%) reported incomes of under \$25,000 per year; 71 (39%) reported incomes between \$25,000 and \$50,000; 45 (25%) reported incomes between \$50,000 and \$75,000; and 30 (17%) reported incomes over \$75,000. Seventy-five participants (41%) were Protestant; 60 (33%) were Catholic; 8 (4%) were atheist or agnostic; 1 was Hindu; 2 were Jewish; and 35 (19%) marked “other”. Seventy-four participants (41%) were Republicans; 57 (31%) were Democrats; 36 (20%) were independents; and 14 (8%) marked “other”.

There were no significant differences in disgust sensitivity by age group: ( $M_{25-49} = 2.59$ ,  $M_{50-75} = 2.54$ ,  $M_{76+} = 2.70$ ),  $F(2, 177) = 0.26$ ,  $p = .77$ ,  $\eta^2 = .003$ ; or income ( $M_{< \$25K} = 2.48$ ,  $M_{\$25K-\$50K} = 2.64$ ,  $M_{\$50K-\$75K} = 2.57$ ,  $M_{> \$75K} = 2.50$ ),  $F(3, 176) = 0.56$ ,  $p = .64$ ,  $\eta^2 = .009$ . Likewise, there were no significant differences in disgust sensitivity by party affiliation,  $F(3, 176) = 1.89$ ,  $p = .13$ ,  $\eta^2 = .03$ , although disgust sensitivity was directionally higher for Republicans ( $M = 2.66$ ) than for others ( $M_{\text{Democrat}} = 2.56$ ,  $M_{\text{Independent}} = 2.47$ ,  $M_{\text{other}} = 2.35$ ). Finally, disgust sensitivity did not differ by religious affiliation ( $M_{\text{atheist/agnostic}} = 2.09$ ,  $M_{\text{Protestant}} = 2.56$ ,  $M_{\text{Catholic}} = 2.60$ ,  $M_{\text{other}} = 2.64$ ),  $F(3, 173) = 1.27$ ,  $p = .29$ ,  $\eta^2 = .02$ .<sup>1</sup>

*Political orientation.* Regressing disgust sensitivity scores on self-reported conservatism showed that disgust sensitivity predicted conservatism,  $\beta = .22$ ,  $t(178) = 3.04$ ,  $p < .01$ ,  $\eta^2 = .05$ . Since there was not a significant difference in disgust sensitivity between religious groups, it is unlikely that the relationship between disgust sensitivity and conservatism can be explained by religious affiliation. Nonetheless, we tested this hypothesis by simultaneously regressing disgust sensitivity scores and religious affiliation on conservatism. Religious affiliation of any kind (as opposed to atheism/agnosticism) significantly predicted conservatism,  $F(3, 172) = 2.87$ ,  $p < .05$ ,  $\eta^2 = .04$ , but disgust sensitivity remained a significant predictor as well,  $\beta = .23$ ,  $t(172) = 3.15$ ,  $p < .002$ ,  $\eta^2 = .05$ . Thus, religious affiliation does not appear to explain the relationship between disgust sensitivity and conservatism.

## STUDY 2

This study had two goals: first, we wanted to replicate the correlation between disgust sensitivity and conservatism using the full 32-item Disgust Scale Version 2 (Haidt, 2004), and a more sensitive measure of political ideology. To this end, all participants completed the full Disgust Sensitivity

<sup>1</sup> This and the subsequent analysis involving religious affiliation exclude the three participants who were Hindu or Jewish.

Scale. They also completed an expanded political orientation measure, where they indicated the degree to which the terms *Republican*, *Democrat*, *Independent*, *Conservative*, and *Liberal* described their political ideology on a 7-point scale anchored by *Weak* and *Strong*. (Participants also had the option of not selecting a response if they felt that a term did not apply to them.)

Second, we hypothesised that because disgust is specifically associated with perceived violations of purity-related norms important to conservatives (Haidt & Graham, 2007), disgust sensitivity should be especially associated with conservative attitudes on issues related to sexual purity. To test this hypothesis, we assessed participants' stances on ten specific political issues. We created this list of issues by first asking a large sample of undergraduates ( $N = 582$ ) to list the five political issues "that are most important to you". From this list, we selected issues that were mentioned frequently and that concerned a range of policy domains (e.g., foreign affairs, tax policy, social/moral issues, etc.). By adapting questions from existing public opinion surveys, we created a specific statement addressing each issue and pre-tested these statements with two separate groups of undergraduate participants (total  $N = 84$ ). After eliminating items that showed a low correlation with participants' self-reported political orientation, we were left with ten issues: *gay marriage*, *abortion*, *gun control*, *labour unions*, *bombing Iran*, *welfare*, *Iraq war*, *affirmative action*, *tax cuts*, and *the death penalty*.

Participants in the current study read a statement about each issue and rated the extent to which they agreed with the statement using a 7-point scale anchored by *Completely disagree* and *Completely agree*. (See Appendix 1 for the complete list of statements.) We expected that disgust sensitivity would strongly predict responses to the purity-related (i.e., *gay marriage* and *abortion*) items, but that this effect would be weaker for the other items.

## Method

Participants were 91 Cornell undergraduates who completed the study by logging onto an Internet web site in exchange for a chance to win a cash prize. Seven failed to complete the entire study, leaving 84 participants (69 female). Participants always completed the measures in the same order: the political orientation scale came first, followed by the Disgust Sensitivity Scale and, finally, the political issues scale.

## Results

*Political orientation.* If participants did not rate themselves on a term (indicating that it did not apply to them) we gave them a rating of zero for that term (all participants rated themselves on at least one term). We then added participants' ratings of themselves as "Conservative" and

“Republican” and subtracted their ratings for “Liberal” and “Democrat” to form a composite measure of conservatism ( $\alpha = .71$ ), where higher numbers indicate more conservatism. Replicating Study 1, disgust sensitivity predicted self-reported conservatism,  $\beta = .27$ ,  $t(81) = 2.50$ ,  $p < .05$ ,  $\eta^2 = .07$ .

*Political issues.* Responses to the political issues items were recoded so that higher values indicated a more conservative response. All items correlated with self-reported conservatism in the expected direction— $r$ s ranged from .33 (*unions*) to .58 (*Iraq war*)—with all  $ps < .01$ . The ten items also correlated highly with each other ( $\alpha = .79$ ).

Regressing disgust sensitivity scores onto responses for each item showed that, as expected, disgust sensitivity predicted responses to the *gay marriage* item,  $\beta = .35$ ,  $t(81) = 3.42$ ,  $p < .005$ ,  $\eta^2 = .12$ , and to the *abortion* item,  $\beta = .36$ ,  $t(81) = 3.49$ ,  $p < .001$ ,  $\eta^2 = .12$ : Participants higher in disgust sensitivity were more opposed to gay marriage and abortion. Surprisingly, disgust sensitivity also predicted responses to the *tax cuts* item,  $\beta = .39$ ,  $t(81) = 3.80$ ,  $p < .001$ ,  $\eta^2 = .15$ : Participants who were higher in disgust sensitivity were more likely to think that tax cuts were good for the economy.<sup>2</sup> Disgust sensitivity did not significantly predict responses to any other item (all  $ps > .05$ ), although for every item higher disgust sensitivity was associated with more conservative responses (i.e., the sign of the disgust sensitivity coefficient was positive).

### Is it really basic disgust?

The Disgust Sensitivity Scale Version 2 measures sensitivity to disgust in four domains: *interpersonal* (e.g., accidentally drinking out of someone else’s soda); *unusual sexual practices* (e.g., hearing about a 30-year-old man who seeks sexual relationships with 80-year-old women); *death blood, and gore* (e.g., accidentally touching cremated human remains); and *core disgust* (basic disgust elicitors such as cockroaches, maggots, urine, faeces, and vomit). If our results were driven by one of the non-core subscales, this would pose a problem for our argument that a general proclivity towards disgust is associated with conservative political attitudes. For example, one might argue that people who are more disgusted by sexual relationships between young men and octogenarian women are also more likely to be disgusted by homosexuality and thus more disapproving of gay marriage. To eliminate this possibility, we re-ran all analyses using only the 8 scale items tapping core disgust (see Appendix 2 for a list of these items). Note that as this entails reducing the number of scale items from 32 to 8, this is a quite

<sup>2</sup> This unexpected finding did not replicate in subsequent studies, so we are reluctant to attach much importance to it.



TABLE 1  
 Summary of regression analyses from Study 2.  $\beta$ ,  $t$ , and  $p$ -values are from individual analyses regressing the full 32-item DSS 2 (first three columns) or the 8-item core disgust subscale (last three columns) on each item ( $N=84$ )

Item	Full scale			Core disgust only		
	$\beta$	$t$	$p$	$\beta$	$t$	$p$
Self-reported conservatism (composite)	<b>.27</b>	2.50	.01	<b>.22</b>	2.11	.04
Abortion	<b>.36</b>	3.49	.0008	<b>.39</b>	3.89	.0002
Gay marriage	<b>.35</b>	3.42	.001	<b>.24</b>	2.31	.02
Welfare	.14	1.29	.20	.14	1.28	.21
Iran	.17	1.63	.11	.20	1.87	.07
Unions	.13	1.16	.25	.16	1.47	.15
Death penalty	.02	0.150	.88	.01	0.10	.92
Affirmative action	.19	1.69	.10	<b>.27</b>	2.51	.01
Iraq	.18	1.66	.11	.19	1.76	.08
Gun control	.19	1.80	.08	.19	1.76	.08
Tax cuts	<b>.39</b>	3.80	.0003	<b>.29</b>	2.75	.007

Note: All items are coded such that higher numbers correspond to more conservative attitudes. Significant regression terms are in bold.

conservative test of our hypothesis. Nonetheless, results were extremely similar to those using the full scale—all significant results remained significant (see Table 1 for a comparison of results using the full DS scale and the 8-item subscale).

### GENERAL DISCUSSION

Dispositional proneness to disgust, as measured by the Disgust Sensitivity Scale (Haidt et al., 1994), was associated with greater self-reported political conservatism. This relationship appeared to be strongest for, but was not limited to, attitudes towards the “sociomoral” issues of gay marriage and abortion. Specifically, disgust sensitivity was related to a greater disapproval of gay marriage and greater disapproval of abortion.

Both anthropological evidence (Shweder et al., 1997) and recent theorising (Haidt & Graham, 2007) suggest that disgust is intimately involved in the construction of moral systems and the categorisation of broad classes of behaviours as immoral. While previous research has shown disgust to be important in moral judgement (Schnall, Haidt, & Clore, in press), that research focused on the effects of *state* disgust. To our knowledge, the current research is the first to examine the relationship between *trait* disgust—that is, a dispositional propensity to feel disgust in a variety of domains—and political/moral attitudes.

Because these results are correlational, it is possible that there are other variables related to both disgust sensitivity and conservatism that may account for the observed relationship. For instance, Haidt et al. (1994) reported that disgust sensitivity is related positively ( $r = .39$ ) to Fear of Death (Boyar, 1964), and negatively ( $r = -.46$ ) to Sensation Seeking (Zuckerman, 1979). Openness to experience (Costa & MacRae, 1985), which is conceptually similar to Sensation Seeking, has also been shown to correlate negatively ( $r = -.28$ ) with disgust sensitivity (Druschel & Sherman, 1999). As these personality variables are known to be related to political conservatism (Jost, Glaser, Kruglanski, & Sulloway, 2003), it is important for our argument to establish that the relationship between disgust sensitivity and conservatism is not merely the result of a shared relationship with Fear of Death or Sensation Seeking/openness. To examine this possibility for Fear of Death, we computed scores on the 8-item death, blood, and gore subscale from the full DSS in Study 2. These items concern reactions to death, corpses, and gore, and so are especially related to Fear of Death (Haidt et al., 1994). If the link between disgust sensitivity and conservatism is Fear of Death, scores on the death, blood, and gore subscale of the DSS should be especially strongly related to political ideology. However, this was not the case: Death, blood, and gore subscale scores did not predict self-reported conservatism among Study 2 participants,  $\beta = .14$ ,  $t(81) = 1.23$ ,  $p = .22$ . Thus, the relationship between disgust sensitivity and conservatism is not due to their shared association with Fear of Death.

Sensation Seeking and openness to experience have been linked to a wide variety of conservative attitudes, including a general reluctance to change the established order as well as acceptance of social or economic inequality between groups (see Jost et al., 2003, for a review). This very broad association between Sensation Seeking/openness and conservatism suggests that if a shared relationship with Sensation Seeking or openness were the cause of the disgust sensitivity-conservatism link, then disgust sensitivity should be associated quite broadly and strongly with a large variety of conservative attitudes. However, this is not the case—in Study 2, disgust sensitivity was strongly associated with attitudes towards the sexual-purity-related issues of gay marriage and abortion, but was associated much more weakly with other political attitude items. Further, though the relationship between openness to experience and purity-related social attitudes has rarely been investigated, when it has the relationship between openness and attitudes has been either weak (Cullen, Wright, & Alessandri, 2002) or non-existent (Heaven, Fitzpatrick, Craig, Kelly, & Sebar, 2000; Leeson & Heaven, 1999). Thus, we do not believe that Sensation Seeking or openness to experience can explain the specific relationship between disgust sensitivity and conservative attitudes on purity-related political issues.

*Does disgust sensitivity cause conservatism?* The current data cannot speak to the causal relationship between political attitudes and disgust sensitivity. It might be that no simple relationship is there to be found, though it does seem unlikely that political attitudes would shift a person's general emotional dispositions, particularly when it comes to disgust, a basic emotion that emerges long before individuals form political attitudes. If disgust sensitivity did play a causal role in determining whether one is liberal or conservative, it would be only one of many individual differences known to be associated with political orientation (Jost et al., 2003). Moreover, other factors, such as geographical location, doubtless exert a strong influence on political attitudes—a resident of Utah is far more likely to be conservative than a resident of Massachusetts, but it seems unlikely that Utah residents are dramatically more disgust-sensitive than Massachusetts residents. Our data show that disgust and politics are linked most strongly for issues of purity, such as attitudes towards homosexuality (see also Inbar, Pizarro, Knobe, & Bloom, 2008). But the nature of this link, and how sexual attitudes connect to political attitudes more generally, is a topic for further research.

Manuscript received 14 January 2008

Revised manuscript received 20 March 2008

Manuscript accepted 3 April 2008

First published online 13 June 2008

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## APPENDIX 1

### Political issue statements used in Study 2

1. A woman should have the right to choose what to do with her body, even if that means getting an abortion.
2. Homosexuals should have the same right to marriage as anyone else.
3. The welfare system is too easy to abuse, and does not give people enough incentive to find work.
4. To try to prevent Iran from developing nuclear technology, the United States should consider bombing Iran's nuclear development sites.
5. Overall, labour unions tend to hurt the US economy.
6. It is important for our legal system to use the death penalty as punishment for heinous crimes.
7. Affirmative action gives those groups with a history of oppression a chance to get ahead.
8. The United States should not have invaded Iraq.
9. Gun control laws are not nearly strict enough.
10. Federal tax cuts have been worth it, because they have helped strengthen the economy by allowing Americans to keep more of their own money.

## APPENDIX 2

## Core disgust items from the Disgust Sensitivity Scale Version 2

*Please indicate how much you agree with each of the following statements, or how true it is about you.*

1. I might be willing to try eating monkey meat, under some circumstances.
2. If I see someone vomit, it makes me sick to my stomach.
3. Seeing a cockroach in someone else's house does *not* bother me. (Reverse coded)
4. Even if I was hungry, I would not drink a bowl of my favourite soup if it had been stirred by a used but thoroughly washed fly swatter.

*How disgusting would you find each of the following experiences?*

5. You see maggots on a piece of meat in an outdoor garbage pail.
6. While you are walking through a tunnel under a railroad track, you smell urine.
7. A friend offers you a piece of chocolate shaped like dog-doo.
8. You see a bowel movement left unflushed in a public toilet.