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The relationship between disgust, state-anxiety and motivation during a dissection task

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ABSTRACT

Emotions influence motivation, but emotions, such as disgust, have attracted less attention in learning research. We assessed the influence of disgust measured as trait and specific state component, state anxiety and self-efficacy on intrinsic motivation during the dissection of a fish using a pre-/post-design in science teacher students. Anxiety and disgust had a negative influence on motivation. Students with more experience in dissections reported lower pressure. Anxiety after the lesson was influenced by prior anxiety and by animal reminder disgust. Specific state disgust after the dissection was predicted by prior specific state disgust, core disgust and state anxiety. State anxiety and specific state disgust decreased during the dissection. The future commitment to use dissection at school was solely predicted by interest; competence and pressure failed the significance level marginally.

1. Introduction

Within an academic setting, different emotions can be experienced (Pekrun, Goetz, Titz, & Perry, 2002) and the importance of understanding these emotional processes is rapidly growing (Alsop & Watts, 2003). Emotions may significantly influence intrinsic motivation (Bergin, 1999; Krapp, 2005) and achievement (Gläser-Zikuda, Fuß, Laukenmann, Metz, & Randler, 2005; Randler & Bogner, 2007). Also, motivation – as well as self-efficacy – and enjoyment are positive predictors of achievement in science (Areepattamannil, Freeman, & Klinger, 2011). Apart from studies that showed an important influence of interest on the level of learning, academic performance and the quality of learning experience (Hidi & Renninger, 2006; Randler & Bogner, 2007; Schiefele, Krapp, & Schreyer, 1993), other emotions have attracted less attention (e.g., boredom: Pekrun, Götz, Daniels, Stupnisky, & Perry, 2010), and therefore, Pekrun, Goetz, Frenzel, Barchfeld, and Perry (2011) suggested measuring additional academic emotions and these authors developed a questionnaire to assess enjoyment, hope, pride, relief, anger, anxiety, shame, hopelessness, and boredom during class.

Apart from these academic emotions (Gläser-Zikuda et al., 2005; Pekrun et al., 2011), disgust may also be an important emotion with a negative influence on motivation. This could be particularly relevant in science or biological education, for instance during dissection (Holstermann, Grube, & Bögeholz, 2009) or when encountering living animals, both within the classroom (Hummel & Randler, 2012) and outside during fieldwork (Bixler & Floyd, 1999; Randler, Ilg, & Kern, 2005). Although disgust seems to be an important negative emotion, there are only very few studies discussing its impact on motivation or achievement in learning settings (see discussion in Bixler & Floyd, 1999; Holstermann et al., 2009; Randler et al., 2005). Few studies addressed the influence of disgust on educational outcomes: Bixler and Floyd (1999) found that pupils from a middle school who expressed the lowest interest in activities that required manipulation of organic substances had the highest disgust-sensitivity scores. In contrast, they found no differences for activities that required observation only. They suppose that manipulation may include the possible contact with disgusting animals, and that this disgust may reduce interest in the given activity. Randler et al. (2005) showed that children with higher level of anxiety for amphibians had significantly lower knowledge scores than those who felt less anxious. Holstermann et al. (2009) reported that participants who felt more disgusted saw themselves as less effective at mastering the dissection of a pig's heart and these participants reported lower interest. These studies suggest a strong negative influence of disgust on motivation suggesting that the emotion of disgust significantly influences learning efforts.

In biological and psychological terms, disgust is a basic negative emotion related to avoidance of certain animals, ill humans, feces, vomit, sexual substances and other harmful events (Rozin, Haidt, & McCauley, 2000). Disgust is an emotion that is adaptive in evolutionary terms — it reduces the probability of transmission of infectious diseases and helps to avoid contamination with harmful substances (Curtis, Aunger, & Rabie, 2004; Oaten, Stevenson, & Case, 2009;

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Prokop, Fančovičová, & Fedor, 2010; Prokop, Uşak, & Fančovičová, 2010; Tybur, Lieberman, & Griskevicius, 2009). The emotion consists of both a trait and a state component (Petrowski et al., 2010; Tolin, Woods, & Abramowitz, 2006). Conditioning disgust is easy despite an inter-personal sensitivity towards this emotion (e.g. Schaller & Duncan, 2007), and it seems resistant to conventional changes (see Curtis & Biran, 2001 for discussion). Disgust and fear were often addressed in the framework of phobias (Choplin & Carter, 2011; Haidt, McCauley, & Rozin, 1994; Mulkens, de Jong, & Merckelbach, 1996). In education, different authors tried to reduce disgust and/or fear, e.g., when encountering living animals (Killermann, 1996; Randler, Hummel, & Prokop, 2012) or to improve attitude and interest gain (Tamir & Shcurr, 1997). Survey studies on animal preferences and on disgust revealed interesting results that were often in accordance with a biological basis, e.g., students dislike spiders or snakes, which may be a consistent effect across different cultures, but with some subtle differences. In areas where spiders may pose a threat to health, these animals are rated as more fearful (Prokop, Tolarovičová, Camerik, & Peterková, 2010). Apart from spiders and snakes, other species were also often rated as negativistic, e.g. bats, and this might be related to aspects of fear and phobia and beliefs in myths (Knight, 2008; Prokop, Fancovicová, & Kubiatko, 2009). Further, in pre-service teachers, Wagler (2010) reported an association between pre-service teacher's attitudes towards a specific animal and the likelihood to include this species in their future science curriculum. This can be interpreted as the willingness to take action.

Dissection of animals in the classroom, both during University and secondary education, is still considered as a useful tool for teaching, although declarative knowledge is equal in alternative treatments, e.g., by using video instruction or virtual dissection (De Villiers & Monk, 2005; Dewhurst, 2004; Strauss & Kinzie, 1994), and De Villiers and Monk (2005) further emphasize that not all learners in biology should carry out dissection when alternatives may be perfectly adequate. However, apart from cognition, other aspects are also relevant in science education, such as emotions and methodological skills, and this is one central aspect why dissection is still present in science classrooms (Lord, 1990). Seventy nine percent of teachers in an American survey used dissection to teach biology. Further, 31% believed that alternatives were as good as dissection for teaching anatomy and physiology, 55% disagreed, and their primary reason was the hands-on aspect of dissection (69%; King, Ross, Stephens, & Rowan, 2004). With respect to students, they recognize the interest and educational value of animal uses such as dissection, while they disapprove the killing of animals for this purpose (Donaldson & Downie, 2007). Further, they recognize the ethical distinction between observing live animals (maggots), dissecting abattoir by-products (sheep heart and lungs) and dissecting animals bred and killed especially for student use (rats; Donaldson & Downie, 2007). Bowd (1993) reported that students mentioned a larger variety of negative responses to dissection in comparison with neutral and positive. Another retrospective study reported 27% negative, 36% mixed and 37% positive responses (De Villiers & Sommerville, 2005). These studies suggest that negative emotions may have an influence on motivation, and that they should be surveyed immediately after performing a dissection task. This has not been done previously with the exception of Holstermann et al. (2009) carrying out a state measurement 5 min after the dissection started.

In this study, we assess the influence of disgust (measured as trait and specific state component), anxiety and self-efficacy on motivation. Disgust and fear towards specific animals have been under research, usually by survey studies (Prokop, Fančovičová, & Fedor, 2010; Prokop, Özel, & Uşak, 2009; Prokop, Tolarovičová, Camerik, & Peterková, 2010; Prokop & Tunnicliffe, 2008; Prokop, Uşak, & Fančovičová, 2010), but here we used an experimental and controlled approach based on a specific dissection task with a pre-/post evaluation. We hypothesize that anxiety and disgust (both as a trait and a specific state measurement) might have an influence on motivation. Further, post examination of disgust and anxiety should be influenced by a prior measurement of these variables. We included self-efficacy as it is supposed to have an influence during a dissection task (Holstermann et al., 2009), and we applied standardized measures of anxiety because we assume that anxiety is an influential predictor, that has not been assessed in this respect but in other contexts.

2. Material and methods

2.1. Instruments

2.1.1. Intrinsic motivation

We used a short scale for measuring intrinsic motivation (KIM; Wilde, Bätz, Kovaleva, & Urhahne, 2009), which is based on the Intrinsic Motivation Inventory (IMI; Deci & Ryan, 1985). Our educational program at the University (the module zoology) is largely based on the motivational theory of Deci and Ryan (1985), thus we used instruments from this theory to assess motivation. The intrinsic motivation contains four dimensions: interest/enjoyment, perceived competence, perceived choice, and pressure/tension. Every dimension was assessed with three items each (all positively coded; 1–5 point Likert scale). The German version is a valid and reliable instrument (see Wilde et al., 2009). The reliabilities (Cronbach's alpha) of the subscales of the present samples were: interest: 0.89, competence: 0.90, choice: 0.89, pressure/tension 0.80.

2.1.2. Trait and specific state disgust

Disgust was measured as a trait variable with 37 items prior to the treatment based on three domains: core disgust (15 items), animal reminder disgust (9 items) and contamination disgust (13 items). All items are five-point Likert scaled and the participants have to respond how disgusting they assess the different questions. We used the German version of the scale which has good psychometric properties (Petrowski et al., 2010). The reliabilities of the present sample are core disgust 0.77, animal reminder disgust 0.85, and contamination disgust 0.74. In addition, we developed a specific state disgust scale related to the dissection of the rainbow trout (see Table 1). The scale had a reliability of 0.79 (pre) and 0.84 (post). The development was necessary because there were no available scales for this specific topic.

2.1.3. State anxiety (STAI-S)

State anxiety was measured immediately before and after the dissection task with a scale sensitive towards changes (STAI-S; Laux, Glanzmann, Schaffner, & Spielberger, 1981). The items are four-point Likert scaled and 10 items are positively and 10 items are

Table 1
The 'specific state disgust scale'. Inter-item correlations are shown.

	SDS1	SDS2	SDS3	SDS4	SDS5	SDS6
If I would get served a whole trout (including head and eyes) in a restaurant, I would not be able to eat a thing. (SDS1)	1.000					
Trouts are disgusting. (SDS2)	.595	1.000				
I don't mind touching a trout. (reverse coded) (SDS3)	.214	.311	1.000			
I would rather leave the room when we dissect a trout. (SDS4)	.433	.626	.362	1 .000		
Trouts are beautiful animals. (reverse coded) (SDS5)	.409	.568	.312	.355	1.000	
The trout's mucus nauseates me. (SDS6)	.440	.606	.281	.601	.431	1.000
During trout dissection, I would rather use a nose clip to avoid the smell. (SDS7)	.521	.615	.345	.647	.394	.576

Table 2
Correlations between the predictor variables.

	Core disgust	Animal remainder disgust	Contamination disgust	Self-efficacy	State anxiety (STAI-S pre)	Specific state disgust (pre)
Animal remainder disgust	.567***					
Contamination disgust	.696***	.519***				
Self-efficacy	−.317***	−.342***	−.312***			
State anxiety (STAI-S pre)	.287**	.303***	.169	−.311***		
Specific state disgust (pre)	.319***	.423***	.219*	−.285***	.562***	
Frequency of previous dissections	−.248**	−.269**	−.224**	.190*	−.095	−.203*

* p<.05.
** p<.01.
*** p<0.001.

negatively coded. The reliability of the state anxiety was high in the present sample (pretest: 0.90; posttest 0.91).

2.1.4. Self-efficacy

Self-efficacy was measured according to the concept of Schwarzer (1992) using a scale presented by Jerusalem and Satow (1999). This scale was developed for learning contexts in schools and was slightly changed and adapted to University students. The seven items are 1–5 Likert scaled, one item is reverse coded. The self-efficacy scale had a reliability of 0.71.

2.1.5. Additional questions

Further, we asked for previous experience with dissection of a fish and with general experience with dissections (two items), coded from 1 (never) to 4 (more than five times), because previous experience with a specific scientific method has an influence on interest (Holstermann, Grube, & Bögeholz, 2010). The mean of the two items was used. To assess the willingness to take action, we asked two additional questions: "I would like to do more dissections (yes/no)" and "I would use the dissection of a trout in school (yes/no)".

2.2. Participants and data collection

The participants of the winter term 2010/11 were pre-service biology teacher students and they have usually a history of 13 years of schooling. The mean age of our students (mean ± standard deviation) is 22.7 ± 3.4 years when they attend the zoology course (based on data of our survey during the winter term 2010/11). One hundred and seventy five students (146 females, 26 males, 3 sex unspecified) participated in the study. The sample consists mainly of Caucasians (>90%). About 75% of our students have no children and they work 6.5 h per week in addition to their curricular studies. However, 117 students filled in all questionnaires (pre-trait, pre-state, post-state, follow-up).

There were four time points when measurements were taken: we started the study with a trait measurement of self-efficacy and trait disgust 1 week prior to the dissection lesson. Immediately before the dissection started, students were asked to fill in a questionnaire outside and before entering the dissection laboratory at a reception desk. Then the students moved to the lab and the dissection task was carried out in five different groups with 20–30 students each. The lesson lasted 100 min and the first 10 min were covered by a videotape introducing basic biological facts and the life history of the trout, then a lecturer explained the handling and gave some background information about the biology, anatomy and internal and external structure (30 min) of the rainbow trout (*Oncorhynchus mykiss*, Walbaum, 1792; family Salmonidae). The trouts were bought from commercial rearing. Afterwards, the students worked on their own in groups of usually two persons in a student-centered manner following typical student-centered learning approaches (see, e.g., Randler & Bogner, 2009; Randler & Hulde, 2007) for about 60 min. In the last 5 min, students again filled in an immediate post-questionnaire while still sitting in the dissection laboratory. We surveyed the lesson by an additional observer who did not participate but who controlled and protocolled the details of the structure. After 4 weeks, the post measure of specific state disgust took place.

2.3. Statistical analyses

We used Pearson's correlation to look at bivariate relationships and used linear regressions for each dependent variable (motivation, post specific state disgust, post state anxiety). We did not use stepwise procedures; only full models were inspected. T-tests were used to compare dependent variables (pre and post measures of disgust and anxiety), and general linear models were used to assess the influence of factors and covariates simultaneously and to control for prior disgust and anxiety. Finally, a binary logistic regression was used to look at the willingness to carry out dissections at the school. SPSS 18 (PASW) was used for statistical calculations and the p-values were set at the 5% level.

3. Results

The correlations between the predictor variables are depicted in Table 2. Correlations of disgust measures prior to the dissection with

Table 3
Correlations between the predictor disgust measures and the measures of intrinsic motivation, state-anxiety and specific state disgust.

	Intrinsic motivation				State anxiety (STAI-S post)	Specific state disgust (post)
	KIM interest	KIM competence	KIM choice	KIM pressure		
Core disgust	−.227**	−.214*	−.040	.252**	.224**	.225**
Animal reminder disgust	−.227**	−.242**	−.134	.289**	.362***	.375***
Contamination disgust	−.149	−.076	−.013	.235**	.126	.219*
Self-efficacy	.284**	.361***	.177*	−.301***	−.317***	−.293**
State anxiety (STAI-S pre)	−.589***	−.577***	−.207*	.495***	.679***	.542***
Specific state disgust (pre)	−.631***	−.543***	−.212*	.462***	.508***	.816***
Frequency of previous dissections	.216*	.078	−.037	−.254**	−.117	−.238**

* p<.05.
** p<.01.
*** p<0.001.

Table 4
Regression analyses of the predictor variables on facets of intrinsic motivation, post state anxiety, and post specific state disgust.

		Intrinsic motivation				State anxiety (STAI-S post)	Specific state disgust (post)
		KIM interest	KIM competence	KIM choice	KIM pressure		
Standardized coefficients (beta)	Core disgust	−.042	−.133	.041	−.045	−.049	−172*
	Animal remainder disgust	.126	.053	−.082	−.015	.154*	.032
	Contamination disgust	.005	.157	.078	.117	−.061	.127†
	Self-efficacy	.081	.196**	.128	−.085	−.058	−.037
	State anxiety (STAI-S pre)	−.324***	−.304***	−.131	.348***	.675***	.129*
	Specific state disgust (pre)	−.426***	−.363***	−.094	.255***	.109	.722***
	Frequency of previous dissections	.105	−.043	−.070	−.160*	−.005	−.072
F		14.78***	13.58***	1.47ns	11.06***	29.62***	36.03***
R^2		.461	.440	.079	.392	.631	.676

ns = not significant.
† p<.10.
* p<.05.
** p<.01,
*** p<0.001.

post-dissection measures (intrinsic motivation, state anxiety, and specific state disgust) are depicted in Table 3. In a next step, linear regressions were carried out to assess the influence of the predictor disgust variables on the outcome variables intrinsic motivation, post-disgust and post-anxiety simultaneously (Table 4). Concerning motivational variables, we found that prior state anxiety (STAI-S pre) and prior specific state disgust influenced interest negatively. Perceived competence was positively influenced by self-efficacy and negatively by specific state disgust and STAI-S (pre). Concerning perceived choice, we could not obtain a significant regression model, thus suggesting that the studied predictor variables do not significantly influence perceived choice. Pressure/tension was influenced by STAI-S (pre) and prior specific state disgust. Further, the number of previous dissections led to a lower score on pressure/tension. The results showed that STAI-S (pre) and specific state disgust were the most influential predictors of motivation. STAI-S after the dissection task was significantly influenced by STAI-S prior to the dissection and by the trait measure of animal reminder disgust. Post specific state disgust was significantly predicted by pre specific state disgust, core disgust (trait), STAI-S (pre), and marginally non-significantly by contamination disgust. These results suggest a strong influence of disgust measured by both, trait and state variables. STAI-S decreased during the dissection task from 1.85 ± .44 to 1.70 ± .45 ($p<0.001$), and specific state disgust also decreased from 2.32 ± .92 to 2.11 ± .94 ($p<.001$), then however, disgust towards the trout remained on a stable level and did not increase or decrease (2.14 ± .81; $p=.33$) after 4 weeks (Fig. 1).

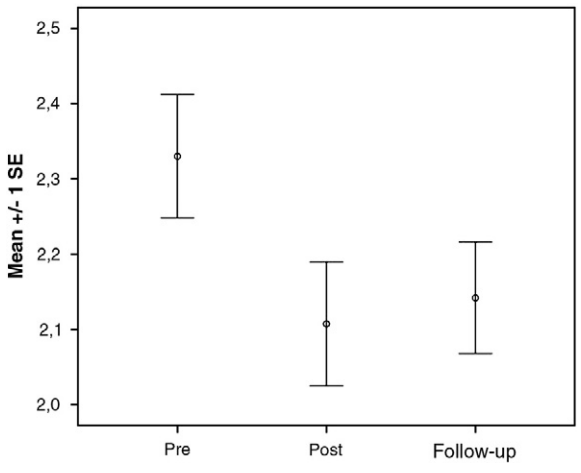

Fig. 1. Specific state disgust (trout) measured prior, immediately after and with a delay of 4 weeks.

We had two identical measures that have been applied immediately prior and after the dissection task: STAI-S and specific state disgust. Thus, to assess the changes, we used a GLM with the respective significant predictors from the regressions (Table 3), and we additionally grouped whether the students were dissecting or only assisting. Post specific state disgust was influenced by pre specific state disgust and by the fact whether the students were dissecting (N = 101) or observing/assisting (N = 16) but core and contamination disgust failed significance marginally ($p<0.1$; Table 5). Observer/assistants had higher post scores (mean ± SE: 2.0 ± 0.05 vs. 2.4 ± 0.14). Post state anxiety was not influenced by student behavior, but was influenced by the pre-STAI-S and by animal remainder disgust (Table 6).

A binary logistic regression on the question "I would like to carry out more dissection tasks" (yes: N = 113, no: N = 24), found this result determined by core disgust, contamination disgust and interest (Table 7). To assess the future commitment, we asked if the students would use dissection at school (yes: N = 104, no: N = 32), and this was solely predicted by interest, but competence (0.056) and pressure/tension (0.061) failed the significance level marginally (Table 8). This suggests that motivation during a dissection task at the University may influence future behavior of teachers as this question was assumed to show the willingness to take action (or commitment).

4. Discussion

The study adds to our understanding because it shows the significant influence of disgust, as specific state and trait measures, on motivation during a dissection task in University biology students. Such dissections are still common and widespread in school and University despite the broad discussion about alternatives. To our knowledge the relationship between disgust, motivation and anxiety has never been addressed in an educational setting using a pre-/post evaluation. In

Table 5
Results of a general linear model using specific disgust (post) as dependent variable and activity (dissecting vs. assisting/observing) as fixed factor.

	Sum of squares	df	Mean square	F	Sig.	Partial Eta^2
Corrected model	70.693	5	14.139	54.692	<.001	0.711
Activity (dissecting vs. assisting/observing)	1.808	1	1.808	6.994	.009	0.059
Core disgust	0.716	1	0.716	2.768	.099	0.024
Contamination disgust	0.863	1	0.863	3.338	.070	0.029
State anxiety (STAI-S pre)	0.639	1	0.639	2.471	.119	0.022
Specific state disgust (pre)	35.447	1	35.447	137.116	<.001	0.553

Significant predictors from the regression (see Table 3) were also entered (corrected $R^2 = .698$).

Table 6
Results of a general linear model using STAI-S (post) as dependent variable and activity (dissecting vs. assisting/observing) as fixed factor.

	Sum of squares	df	Mean square	F	Sig.	Partial Eta^2
Corrected Model	12.977	3	4.326	62.356	<.001	.623
Activity (dissecting vs. assisting/observing)	.083	1	.083	1.191	.278	.010
State anxiety (STAI-S pre)	7.752	1	7.752	111.741	<.001	.497
Animal remainder disgust	.296	1	.296	4.273	.041	.036

Significant predictors from the regression (see Table 3) were also entered (corrected $R^2 = .613$).

recent times, there is a growing interest in the research of emotional variables (see, e.g., Gläser-Zikuda et al., 2005; Pekrun et al., 2011), but, again, disgust has been rarely addressed using state-measurements. The benefit of our study is that we were controlling for the setting of the lessons, and, thus are able to relate the disgust ratings directly to the dissection of the trout (state disgust). This is advantageous compared with trait survey studies that are more or less retrospective. Concerning trait studies, Bixler and Floyd (1999) asked pupils to assess their disgust sensitivity towards different items and found biting by ticks (*Ixodes* spec.) or feeling a roach crawling across the hand as very disgusting. In contrast to this trait survey study, Randler et al. (2005) used a state measurement (following Gläser-Zikuda et al., 2005) but they did not obtain different results in anxiety when comparing grammar school pupils that participated in a project with handling living amphibian versus pupils participating in the same project but without encountering the living animals. Holstermann et al. (2009) obtained their measurement during the dissection task. Those adolescents who perceived no disgust reported higher interest than the students who felt disgust. Comparing pre- and within lessons measurements of interest, interest increased in students without disgust, but decreased in students who experienced disgust (Holstermann et al., 2009). These results underline the important influence of disgust on interest as a facet of motivation. As interest is an influential predictor of achievement (Hidi & Renninger, 2006) dissections should be carried out as least disgusting as possible to achieve a high interest.

The two approaches of measuring disgust – state and trait – are of course complementary because state measurements can be related to the immediate experience, while trait questions can be retrospective or even speculative, but the benefit of these trait measures is that they can be applied across many different situations (and many items). In sum, the results suggest a strong influence of disgust on academic emotions, motivation and achievement that must be considered within educational settings, such as lab work or field work in science education.

Holstermann et al. (2010) found that pupils who had experience with dissecting pig organs showed higher interest in this activity compared to pupils without such experience. We could replicate this finding between the number of previous dissections and interest in a correlational analysis (Table 2), and pressure/tension and specific state disgust were negatively related to the number of previous dissections. This strongly suggests that encountering dissections leads to a higher interest and to lower experience of pressure/tension and disgust. Similarly with the pre-/post evaluation based on disgust and anxiety, we showed that disgust and state-anxiety were lower after the dissection. Therefore, we propose that it might be better to reduce disgust by encountering dissections instead of avoiding these activities, e.g., by using alternatives such as videos or simulations. It may be better to confront students at the University level with these activities, but it may be different at the school level. We also propose that the participation should be voluntary. As to be expected, the asymmetric distribution of dissectors and observers does not lead to the detection of significant differences. The effect size suggests an interesting finding: Presumably, it is not a very important influence. However, this should be confirmed in a follow-up study with a higher sample of non-dissectors (observers). Probably, such a study should be carried out in a school setting where the number of observers might be higher compared to a University setting.

Table 7
Binary logistic regression on the question "I would like to carry out more dissection tasks".

	Standard. coeff. (beta)	Std. error	Wald	df	Sig.	Exp(B)
Core disgust	−2.736	1.024	7.146	1	.008	.065
Contamination disgust	1.595	.760	4.405	1	.036	4.927
Interest	1.768	.455	15.118	1	<.001	5.862

Nagelkerke's $R^2 = .501$.

Table 8
Binary logistic regression on the question "I will use dissection as a school teacher".

	Standard. coeff. (beta)	Std. error	Wald	df	Sig.	Exp(B)
Interest	1.610	.366	19.382	1	<.001	5.002

Nagelkerke's $R^2 = .340$.

5. Conclusions

One of the most influential predictors in our study was situational interest. This is important, because interest is still a significant predictor even when taking other important variables into account, such as trait disgust, specific state disgust, anxiety and the number of previous dissections of an animal or parts of it. This is one of the strongholds of our study because we controlled for a variety of other psychological variables when assessing the influence on motivation. Further, the commitment or willingness to take action was significantly influenced by motivation. Experience with dissection at the University may have an effect on the willingness to use it in school. In this respect, it seems useful that dissection is repeated more often and that it should be introduced stepwise because motivational factors such as interest and competence may positively influence the willingness to apply dissection in school while experiencing pressure/tension seems to have a detrimental effect.

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