

# The Role of Academic Self-Concept and Emotional Self-Efficacy in Feedback Effects on Anagram Solving

**Elena A. Shepeleva**

Moscow State University of Psychology and Education, Moscow, Russia

**Ekaterina A. Valueva**

Moscow State University of Psychology and Education;  
Institute of Psychology of Russian Academy of Sciences, Moscow, Russia

**Inna V. Krovitskaya**

State-Funded Educational Institution School 1288, Moscow, Russia

**Abstract.** We investigated the interaction of academic self-concept and emotional self-efficacy with positive and negative feedback effects in anagram solving. Two groups of respondents participated in the research: 131 students aged 12 to 15 and 124 adults aged 18 to 37. All participants were randomly divided into three groups. They solved anagrams with positive/negative feedback or without any feedback. The students also filled out an Avrora-s questionnaire and Emotional Self-Efficacy Scale. The results showed that the positive feedback condition enhanced anagram solving compared to the condition with no feedback. We also found that for the students with low academic self-concept in analytical skills, the type of feedback affected the efficiency of the anagram solving. At the same time, the feedback effect was not significant for students with high academic self-concept. In addition, participants with high emotional self-efficacy tended to solve anagrams without any feedback more efficiently than participants with middle and low emotional self-efficacy.

**Correspondence:** Elena A. Shepeleva, [e\\_shep@rambler.ru](mailto:e_shep@rambler.ru), 29 Sretenka, Moscow State University of Psychology and Education, 127051, Moscow, Russia. Ekaterina A. Valueva, [ekval@mail.ru](mailto:ekval@mail.ru); Inna V. Krovitskaya, [innavladimirovna@hotmail.com](mailto:innavladimirovna@hotmail.com)

**Keywords:** feedback, self-concept, self-efficacy, self-esteem, problem solving, individual differences

**Copyright** © 2017. Elena A. Shepeleva, Ekaterina A. Valueva, Inna V. Krovitskaya. This is an open-access article distributed under the terms of the [Creative Commons Attribution License \(CC BY\)](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided that the original author is credited and that the original publication in this journal is cited, in accordance with accepted academic practice.

**Acknowledgements.** This research was supported by the Russian Foundation for Basic Research, Project # 15-36-01305a2 and by the Russian Foundation for Basic Research and the Moscow Government, Project # 15-36-70009.

Received 17 October 2017, accepted 20 November 2017.

## Introduction

Cognitive abilities are considered to be highly stable and reliable measurable characteristics (Neisser et al., 1996). However, to some extent both external (situational) and internal (personal) variables could hinder or enhance test scores. For example, a stereotype threat is a well-known external factor that undermines intellectual performance (Steele, 1997). On the other hand, control and emotional support could boost cognitive performance (Vorobiova, 1996). Intrinsic motivation (Renzulli, 1986), positive thinking (Gordeeva & Osin, 2010), self-theories of intelligence (Dweck, 1999) and self-efficacy (Bandura, 1997) are internal factors that could alter the manifestation of cognitive skills. We assume that, apart from cognitive ability level itself, the interaction of external and internal predictors determines the result of cognitive task performance in a particular situation. In our research, we chose feedback as an external factor and academic self-concept and emotional self-efficacy as internal ones. As we will show, feedback is a very influential factor that can modify performance in various tasks. At the same time, self-efficacy (and self-concept as its proxy measure; Pietsch, Walker, & Chapman, 2003) implies confidence in one's own strengths. Such confidence may help to resist any external influences.

The problem of efficiency of positive and negative feedback (praise and criticism) does not lose relevance in psychology and educational processes (Mackinnon, Smith, & Carter-Rogers, 2015; Brown, 2010; Brockner, Derr, & Laing, 1987). The question of which is more effective — to promote and to support a correct action, or to censure an undesirable and incorrect one — often worries parents, teachers and supervisors. Positive feedback is perceived more readily, promotes self-affirmation, and increases self-esteem and confidence. Negative feedback is accepted with difficulty and is perceived as threatening. However, both types of feedback can be useful (see review in Dahling & Ruppel, 2016). Knowledge that is obtained with negative feedback can facilitate personal growth and positive changes (Kappes, Oettingen, & Pak, 2012). Recent studies show that both positive and negative feedback can have different effectiveness for different purposes. For example, Plakht and colleagues (2012) demonstrated that high quality positive feedback is associated with higher academic scores, high performance in clinical practice and high self-esteem in nursing students. Meanwhile, high quality negative feedback is associated with more accurate self-assessment in students (Plakht, Shiyovich, Nusbaum, & Raizer, 2012). Some factors could hinder the effective use of both positive and negative feedback (Audia & Locke, 2003), such as the inability to build constructive conclusions.

There is some empirical evidence of an interaction between feedback and personality. In a recent study by Dahling and Ruppel (2016), the participants thought they solved a cognitive ability test (in reality it was not intended to measure any ability), and they received fake feedback independent of their results. Respondents who received negative feedback decreased their self-efficacy. There were, however, individual differences. Participants who focused on mastering the skills in the learning process (in contrast to the participants focused on achieving results) were not sensitive to negative evaluations. According to Dweck's

theory (Dweck, 1999), performance-oriented individuals constantly need confirmation for their self-esteem. In contrast, mastery-oriented individuals seek progress in their competencies and skills. These results suggest the importance of learning and goals orientation, which allows students to develop a constructive response to criticism. Thus, both types of feedback can be useful in different situations and for different people.

Most interesting to our research is a study by Gerstenberg and colleagues (2013). They used intelligence tests and demonstrated that individual reactions to feedback depend on participants' explicit and implicit self-concept of intelligence. After negative feedback, participants with low explicit and high implicit self-concepts demonstrated an increase in performance, whereas the performance of other participants was hindered (Gerstenberg et al., 2013).

In previous studies, we showed that there are some gender differences in the perception of feedback (Shepeleva & Valueva, 2015; 2016). According to our results, positive feedback led to a significant decrease in anagram solving in 9 to 14 year old boys. It was also demonstrated that achievement motivation may play a significant role in a delayed effect of negative and positive feedback.

Our brief review shows that studies of feedback effects and their interactions with personal factors are sufficiently variable and are based on various theoretical approaches. We believe that Bandura's self-efficacy concept (Bandura, 1997) is most relevant to the purposes of our study. According to this theory, the success in any activity depends on the confidence in one's own ability to perform this activity efficiently. Moreover, we suppose that confidence in one's own abilities makes a person independent of external evaluation. Feedback associated with cognitive tasks has two components: cognitive (was the answer correct?) and emotional (was the answer good or bad?). Therefore, we suppose that two types of self-efficacy could moderate a feedback impact on cognitive tasks performance: academic self-concept (as a proxy measure of self-efficacy in the cognitive domain) and emotional self-efficacy.

We hypothesized that negative and positive feedback have different influences on anagram solving, depending on the level of personal variables: the greater the confidence in one's own abilities and the higher the emotional self-efficacy, the less feedback-dependence there will be.

## Method

### Participants

Two groups of respondents participated in this study: 131 students from grades 6 through 8 (62 boys and 69 girls) and 124 adults aged 18 to 37 (mean age 19.3, *SD* 2.7, 32 men and 92 women). The school did not provide exact birth dates of the children, so we can estimate only their age range (12 to 15 years old). For all students, their parents gave consent for participation; adults participated partly as volunteers and partly for course credit at the National Research University Higher School of Economics. The adults signed voluntary consent forms to participate in the research.

## Materials

The main experimental task consisted of anagram solving. An anagram is a letter string that is obtained by the rearrangement of letters in a given word (usually a noun). For example, the answer to the anagram “lebat” is the word “table”. Anagrams were chosen as a reasonably good measure of cognitive abilities as well as a handy experimental task because the participants usually know about the correctness/incorrectness of their decisions, and feedback in this case has emotional rather than informative value. For the purpose of our study, we developed 24 anagrams with a length of 5 to 7 letters.

In addition, two questionnaires were used:

1. The reduced emotional self-efficacy scale (Kirk, Schutte, & Hine, 2008, in the Russian adaptation by Shepeleva, 2014). This questionnaire measures self-beliefs with respect to the management of emotions. The original version of the scale includes 32 items. In the present study we used Müller’s reduced version (unpublished), which includes 12 Likert-type questions and has Cronbach’s  $\alpha = .82$  (see Table 1 for descriptive statistics). A sample question is: “Please rate how confident you are that, as of now, you can get into a mood that best suits the occasion”.

2. The Aurora-s scale of academic self-concept (Chart, Grigorenko, & Sternberg 2008; Mandelman, Tan, Kornilov, & Sternberg, 2010) in the Russian adaptation by Shepeleva (Shepeleva & Valueva, 2015). The scale includes four sub-scales which measure academic self-concept in four domains: memory, analytical, creative, and practical abilities. In our research, we focused on academic self-concept in the analytical domain. The sub-scale includes 14 items, with Cronbach’s  $\alpha = .77$  (see Table 1 for descriptive statistics). Sample questions include: “I like to sort and group things (ideas, objects, things that I am learning) according to rules that make sense to me”, and “When working on a problem or answering a question, I am good at recognizing the information that I need to solve the problem or answer the question, and ignoring the information that I don’t need”. Based on Bandura’s guide for constructing self-efficacy scales (Bandura, 2006), we believe that this scale is relevant for measuring self-efficacy in the analytical tasks area.

## Procedure

All participants took part in anagram solving, and the students additionally filled out the two questionnaires. The adults did not complete the questionnaires, partly because data were collected as a pilot study and partly because one of the questionnaires (Aurora-s) is intended only for children. A total of 103 children filled out the Aurora-s academic self-concept questionnaire, and 113 children filled out the emotional self-efficacy questionnaire. The questionnaires were filled in using a paper-and-pencil format before the anagram solving.

All participants completed the anagram task on-line. Adults and children worked with the same interface shown in Figure 1. An anagram appeared on the screen and participants had to press the button “I know the answer” when they had found the encrypted word. Every anagram was presented on the screen until the answer button was pressed, but not for more than 15 seconds. Then the anagram disappeared, and an answer entry field

appeared. Participants could type a solution (with a 20 second time limit) or leave the entry field empty. Then they pressed “Next” to proceed to the feedback or to the following trials, depending on the group. All participants solved 24 anagrams. The program only allowed participants to type Cyrillic lowercase letters and evaluated the responses as correct only in the case of orthographically correct words. In subsequent data analysis, the experimenter manually adjusted the correctness of the answers (the number of such cases was negligible and did not affect feedback influence). The final measure of accuracy was the proportion of correct answers, which ranged from 0 to 1.

The experiment began with a training session (four anagrams, with feedback on answer correctness). Then participants were randomly divided into three groups that received different feedback. The first group (37 adults and 40 children) received “positive” feedback: in case of a correct solution, the message “You have managed to solve the anagram!” («Вам удалось решить эту анаграмму!» in Russian) was displayed on the screen. No feedback was given for incorrect or no solutions. The second group (47 adults and 46 children) received “negative” feedback: in case of an incorrect or no solution, the message “You failed to solve this anagram!” («Вам не удалось решить эту анаграмму!» in Russian) was displayed on the screen. No feedback was given for correct solutions. The third group (40 adults and 45 children) never received any information about the correctness of their decisions.

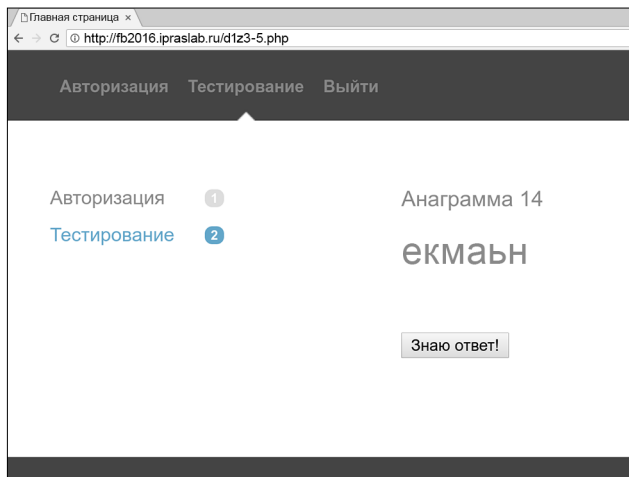
## Results

### The Influence of Feedback

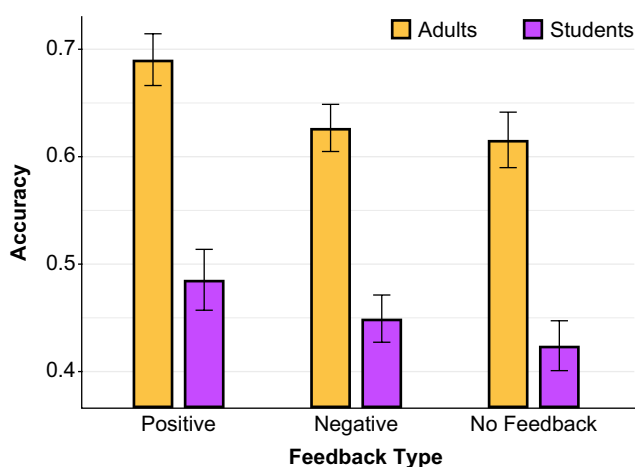
First, we considered the general influence of feedback on anagram solving. A two-way Feedback  $\times$  Age ANOVA was performed for the combined sample (students and adults). We merged our samples since we considered that the age difference between the two groups was quite small, and most participants fall under the definition of “teenager”. Moreover, as the results showed, the pattern of the feedback’s influence on anagram solving was the same in the two groups (Figure 2).

**Table 1.** Descriptive Statistics for Self-Report Measures

|                                            | Min   | Max   | Mean  | SD   |
|--------------------------------------------|-------|-------|-------|------|
| Academic self-concept in analytical domain |       |       |       |      |
| Positive feedback                          | 2.43  | 4.50  | 3.33  | 0.59 |
| Negative feedback                          | 2.14  | 4.71  | 3.25  | 0.57 |
| No feedback                                | 2.14  | 4.71  | 3.40  | 0.66 |
| Overall                                    | 2.14  | 4.71  | 3.33  | 0.61 |
| Emotional self-efficacy                    |       |       |       |      |
| Positive feedback                          | 18.00 | 45.00 | 33.97 | 5.85 |
| Negative feedback                          | 16.00 | 47.00 | 35.32 | 6.54 |
| No feedback                                | 23.00 | 48.00 | 35.58 | 5.48 |
| Overall                                    | 16.00 | 48.00 | 34.99 | 5.96 |



**Figure 1.** The experimental program interface.



**Figure 2.** Anagram solving performance in students and adults. Error bars represent  $\pm$ SEM.

We found a significant influence of Feedback,  $F(2, 249) = 4.00$ ,  $p = .020$ ,  $\eta^2_p = .03$ . The accuracy of anagram solving with positive feedback, negative feedback and no feedback conditions was .58 ( $SD = .19$ ), .54 ( $SD = .17$ ) and .51 ( $SD = .19$ ) respectively. Post hoc comparisons using the Bonferroni correction indicated that the mean score for the positive feedback condition was significantly different than the mean score for the no feedback condition ( $p = .016$ ). We also found a significant influence of Age,  $F(1, 249) = 93.41$ ,  $p < .001$ ,  $\eta^2_p = .27$ . The mean adult performance ( $M = .64$ ,  $SD = .16$ ) was higher than the mean student performance ( $M = .45$ ,  $SD = .16$ ),  $t(253) = 9.58$ ,  $p < .001$ . There was no significant Age  $\times$  Feedback interaction,  $F(2, 249) = 0.16$ ,  $p = .852$ .

Second, we tested our hypothesis that emotional self-efficacy and academic self-concept in the analytical domain moderate the influence of feedback on anagram solving. For this purpose we composed groups of students with low, medium and high emotional self-efficacy, and low, medium and high academic self-concept in the analytical domain. The upper third of participants were assigned to the high level group, and the lower third to the low level group. We then performed a two-way  $3 \times 2$  ANOVA with accuracy of anagram solving as a dependent variable, with feedback type and individual differences in self-report

measures as independent variables. The data for each self-report measure were analyzed separately.

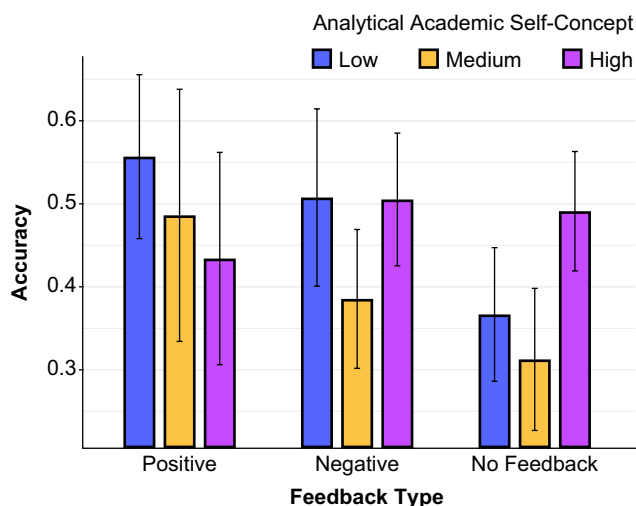
Regarding academic self-concept in the analytical domain, we found a significant main effect of Feedback Type,  $F(2, 94) = 4.12$ ,  $p = .019$ ,  $\eta^2_p = .08$ , as well as a significant main effect of Level of Academic Self-Concept,  $F(2, 94) = 3.31$ ,  $p = .041$ ,  $\eta^2_p = .07$ . Post hoc comparisons with Bonferroni correction showed that the mean score for the positive feedback condition was significantly different than the mean score for the no feedback condition ( $p = .038$ ), and that participants with medium academic self-concept scored significantly lower than those with high ( $p = .036$ ) and low ( $p = .050$ ) academic self-concepts. The interaction effect between independent variables was significant ( $F(4, 94) = 2.60$ ,  $p = .041$ ,  $\eta^2_p = .1$ ). In participants with low and medium academic self-concepts in the analytical domain, the influence of Feedback Type was significant or almost significant ( $F(2, 29) = 5.02$ ,  $p = .013$ ,  $\eta^2_p = .26$  and  $F(2, 34) = 2.99$ ,  $p = .064$ ,  $\eta^2_p = .15$  respectively; see Figure 3). At the same time, in the group with high academic self-concept the influence of Feedback Type was not significant ( $F(2, 31) = 0.68$ ,  $p = .516$ ). This result suggests that problem solving in children with high academic self-evaluation depends on received feedback to a lesser extent, or does not depend on it at all.

For emotional self-efficacy, the main effects of Feedback Type and Emotional Self-Efficacy were not significant;  $F(2, 104) = 1.34$ ,  $p = .267$  and  $F(2, 104) = 0.09$ ,  $p = .917$ . However, we found an interaction (on tendency level) between Feedback Type and Emotional Self-Efficacy factors,  $F(4, 104) = 2.31$ ,  $p = .063$ ,  $\eta^2_p = .08$ ; see Figure 4. In participants who received positive or negative feedback, the influence of Self-Efficacy was not significant;  $F(2, 32) = 0.78$ ,  $p = .468$  and  $F(2, 35) = 1.624$ ,  $p = .212$ . On the other hand, the main effect of Self-Efficacy in the no-feedback condition was significant on a tendency level;  $F(2, 37) = 2.75$ ,  $p = .077$ ,  $\eta^2_p = .13$ . Post hoc comparisons with Bonferroni correction revealed, however, no significant differences in students with high emotional self-efficacy in comparison with low ( $p = .247$ ) and middle ( $p = .100$ ) emotional self-efficacy groups.

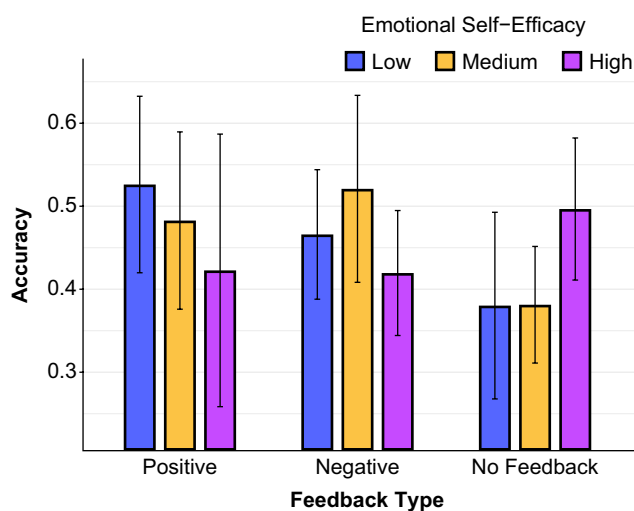
## Discussion and Conclusions

The results of the present research suggest that sensitivity to praise and criticism is moderated by academic self-concept in the domain of analytical abilities. That is, high self-assessment in the analytical domain implies that cognitive task performance becomes independent from external evaluation. At the same time, low confidence in one's own academic abilities is associated with a greater influence of feedback on problem solving. Regarding emotional self-efficacy, we did not achieve unambiguous results. An interaction between self-efficacy and feedback revealed itself only on a tendency level, and the comparisons between groups were not significant. This may suggest that emotional management does not play an important role in cognitive performance. On the other hand, it is possible that the moderation effect of emotional self-efficacy is rather small and a larger sample is needed to confirm our





**Figure 3.** Results of ANOVA: Interaction between Feedback Type and Academic Self-Concept in the analytical domain. Error bars represent 95% confidential interval.



**Figure 4.** Results of ANOVA: Interaction between Feedback Type and Emotional Self-Efficacy. Error bars represent 95% confidential interval.

hypothesis. It is also possible that our feedback was not emotional enough to make the contribution of emotional regulation ability sufficiently strong.

Our results allowed for the formulation of some conclusions. First, positive feedback is useful for improving anagram solving performance. Second, some individual variables that reflect a person's ideas about the effectiveness of their activities and behaviors (self-confidence in analytical abilities) prevent the influence of external factors on cognitive performance. Circumstances and personality, along with cognitive abilities per se, form complex relationships that contribute to the current level of cognitive task performance. Our study makes some contribution to the understanding of this system.

Furthermore, the author's practical experience in schools shows that children react differently to feedback from teachers and parents about their successes or failures. We believe that the results of our research will advocate for individualized feedback depending on personal characteristics.

## References

- Audia, P., & Locke, E. (2003). Benefiting from negative feedback. *Human Resource Management Review*, 13(4), 631–646. doi:10.1016/j.hrmr.2003.11.006
- Bandura, A. (2006). Guide for constructing self-efficacy scales. In F. Pajares, & T. Urdan (Eds.), *Self-efficacy beliefs of adolescents*, Vol. 5. (pp. 307–337). Greenwich, CT: Information Age Publishing. Retrieved from <https://www.uky.edu/~eushe2/Bandura/BanduraGuide2006.pdf>.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. NY: Freeman and Company.
- Brockner, J., Derr, W.R., & Laing, W.N. (1987). Self-esteem and reactions to negative feedback: Toward greater generalizability. *Journal of Research in Personality*, 21(3), 318–333. doi:10.1016/0092-6566(87)90014-6
- Brown, J.D. (2010). High self-esteem buffers negative feedback: Once more with feeling. *Cognition and Emotion*, 24(8), 1389–1404. doi:10.1080/02699930903504405
- Chart, H., Grigorenko, E.L., & Sternberg, R.J. (2008). Identification: The Aurora Battery. In J.A. Plucker, & C.M. Callahan (Eds.), *Critical issues and practices in gifted education* (pp. 281–301). Waco, TX: Prufrock.
- Dahling, J., & Ruppel, J. (2016). Learning goal orientation buffers the effects of negative normative feedback on test self-efficacy and reattempt interest. *Learning and Individual Differences*, 50(2016), 296–301. doi:10.1016/j.lindif.2016.08.022
- Dweck, C.S. (1999). *Self-theories: Their role in motivation, personality, and development*. Philadelphia: Psychology Press, Taylor and Francis group.
- Gerstenberg, F.X.R., Imhoff, R., Banse, R., Altstötter-Gleich, C., & Zinkernagel A. and Schmitt, M. (2013). How implicit-explicit consistency of the intelligence self-concept moderates reactions to performance feedback. *European Journal of Personality*, 27(3), 238–255. doi:10.1002/per.1900
- Gordeeva, T.O., & Osin, E.N. (2010). Pozitivnoe myshlenie kak faktor uchebnykh dostizhenii [Positive thinking as a factor of academic achievement]. *Voprosy Psikhologii*, 1, 24–33. (In Russian).
- Kappes, A., Oettingen, G., & Pak, H. (2012). Mental contrasting and the self-regulation of responding to negative feedback. *Personality and Social Psychology Bulletin*, 38(7), 845–857. doi:10.1177/0146167212446833
- Kirk, B., Schutte, N., & Hine, D. (2008). Development and preliminary validation of an emotional self-efficacy scale. *Personality and Individual Differences*, 45(5), 432–436. doi:10.1016/j.paid.2008.06.010
- Mackinnon, S.P., Smith, S.M., & Carter-Rogers, K. (2015). Multidimensional self-esteem and test derogation after negative feedback. *Canadian Journal of Behavioural Science / Revue canadienne des sciences du comportement*, 47(1), 123–126. doi:10.1037/a0038364
- Mandelman, S.D., Tan, M., Kornilov, S.A., Sternberg, R.J., & Grigorenko, E.L. (2010). The metacognitive component of academic self-concept: The development of a triarchic self-scale. *Journal of Cognitive Education and Psychology*, 9(1), 73–86. doi:10.1891/1945-8959.9.1.73
- Neisser, U., Boodoo, G., Bouchard, T.J., Boykin, A.W., Brody, N., Ceci, S.J., Halpern, D.F., Loehlin, J.C., Perloff, R., Sternberg, R.J., & Urbina, S. (1996). Intelligence: Knowns and unknowns. *American Psychologist*, 51(2), 77–101. doi:10.1037//0003-066x.51.2.77
- Pietsch, J., Walker, R., & Chapman, E. (2003). The relationship among self-concept, self-efficacy, and performance in mathematics during secondary school. *Journal of Educational Psychology*, 95(3), 589–603. doi:10.1037/0022-0663.95.3.589
- Plakht, Y., Shiyovich, A., Nusbaum, L., & Raizer, H. (2013). The association of positive and negative feedback with clinical performance, self-evaluation and practice contribution of nursing students. *Nurse Education Today*, 33(10), 1264–1268. doi:10.1016/j.nedt.2012.07.017
- Renzulli, J.S. (1986). The three-ring conception of giftedness: A developmental model for creative productivity. In R.J. Sternberg, & J.E. Davidson (Eds.), *Conceptions of giftedness* (pp. 53–92). New York: Cambridge University Press.

- Shepeleva, E. A. (2014). Gendernye razlichii v samootcenke sposobnosti i emotsionalnogo intellekta [Gender differences in self-esteem of abilities and emotional intelligence]. In *Molodye uchenye — stolichnomu obrazovaniyu. Materialy XXIII gorodskoi nauchno-prakticheskoi konferentsii 24 aprelya 2014 goda [Proceedings of the 23rd International Scientific and Practical Conference “Young scientists for capital's education”, April 24, 2014]*(pp. 541–542). (In Russian).
- Shepeleva, E. A., & Valueva, E. A. (2015). The role of self-esteem and gender differences in positive and negative feedback effects on anagram solving. In E. V. Pechenkova, & M. V. Falikman (Eds.), *Proceedings of the Third Conference “Cognitive Science in Moscow: New Research”* (pp. 469–474). Moscow: BukiVedi, IPPiP. (In Russian).
- Shepeleva, E. A., & Valueva, E. A. (2016). Rol obratnoi svyazi i motivatsii v reshenii anagramm [Role of the feedback and motivation in anagram solving]. In *Proceedings of the Seventh International Conference on Cognitive Science, Svetlogorsk, Russia*(pp. 635–636). Moscow. (In Russian).
- Steele, C. M. (1997). A threat in the air: How stereotypes shape intellectual identity and performance. *American Psychologist*, 52(6), 613–629. doi:10.1037/0003-066x.52.6.613
- Vorobiova, E. V. (1996). Vliianie sposoba obshcheniia na intellektualnuiu produktivnost (na materiale monozygotnykh bliznetcov v vozraste 13–14 let). [Effect of the way of communication upon the intellectual productivity (on the example of monozygotic twins of age 13–14)]. Unpublished doctoral dissertation, IP RAN. (In Russian).

**■ специальный выпуск ■**

# Роль академической я-концепции и эмоциональной самоэффективности в эффектах обратной связи при решении анаграмм

**Елена Андреевна Шепелева**

Московский городской психолого-педагогический университет, Москва, Россия

**Екатерина Александровна Валуева**

Московский городской психолого-педагогический университет;  
Институт психологии Российской академии наук, Москва, Россия

**Инна Владимировна Кровицкая**

ГБОУ Школа № 1288, Москва, Россия

**Аннотация.** Работа посвящена исследованию взаимодействия академической я-концепции и эмоциональной самоэффективности с эффектами позитивной и негативной обратной связи при решении анаграмм. В исследовании приняли участие две группы респондентов — 131 школьник в возрасте 12–15 лет и 124 взрослых в возрасте от 18 до 37 лет. Все участники, случайным образом поделенные на три группы, решали анаграммы с позитивной или негативной обратной связью в процессе решения либо без всякой обратной связи. Школьники также заполняли опросник «Аврора-с» и опросник эмоциональной самоэффективности. Результаты показали, что, независимо от возраста, позитивная обратная связь приводит к более высокой успешности решения анаграмм, чем отсутствие обратной связи. Также было обнаружено, что тип обратной связи влияет на успешность в решении анаграмм школьников, которые низко оценивают свои аналитические способности по опроснику академической я-концепции. В то же время у испытуемых с высокой академической я-концепцией в аналитической сфере не было выявлено эффекта обратной связи. На уровне тенденции выявлено, что в условиях с отсутствующей обратной связью группа испытуемых с высокой эмоциональной самоэффективностью более успешно решает анаграммы по сравнению с группами испытуемых с низкой и средней эмоциональной самоэффективностью.

**Контактная информация:** Елена Андреевна Шепелева, [e\\_shep@rambler.ru](mailto:e_shep@rambler.ru); 127051, Москва, ул. Сретенка, д. 29, МГППУ. Екатерина Александровна Валуева, [ekval@mail.ru](mailto:ekval@mail.ru); Инна Владимировна Кровицкая, [innavladimirovna@hotmail.com](mailto:innavladimirovna@hotmail.com).

**Ключевые слова:** обратная связь, я-концепция, самоэффективность, самооценка, решение умственных задач, индивидуальные различия

© 2017 Елена Андреевна Шепелева, Екатерина Александровна Валуева, Инна Владимировна Кровицкая. Данная статья доступна по лицензии [Creative Commons "Attribution" \(«Атрибуция»\) 4.0. всемирная](https://creativecommons.org/licenses/by/4.0/), согласно которой возможно неограниченное распространение и воспроизведение этой статьи на любых носителях при условии указания автора и ссылки на исходную публикацию статьи в данном журнале в соответствии с канонами научного цитирования.

**Благодарности.** Исследование поддержано РФФИ, проект №15-36-01305а2, а также РФФИ и Правительством Москвы, проект №15-36-70009.

Статья поступила в редакцию 17 октября 2017 г. Принята в печать 20 ноября 2017 г.

## Литература

- Воробьева Е. В. Влияние способа общения на интеллектуальную продуктивность (на материале монозиготных близнецов в возрасте 13–14 лет). Дисс. ... канд. психол. наук: ИП РАН, Москва, 1996.
- Гордеева Т. О., Осин Е. Н. Позитивное мышление как фактор учебных достижений // Вопросы психологии. 2010. № 1. С. 24–33.
- Шепелева Е. А. Гендерные различия в самооценке способностей и эмоционального интеллекта // Молодые ученые — столичному образованию. Материалы XXIII городской научно-практической конференции 24 апреля 2014 года. 2014. С. 541–542.
- Шепелева Е. А., Валуева Е. А. Роль обратной связи и мотивации в решении анаграмм // Седьмая Международная конференция по когнитивной науке. Тезисы докладов / Под ред. Ю. И. Александрова, К. В. Анохина. М.: ИП РАН, 2016. С. 635–636.
- Шепелева Е. А., Валуева Е. А. Роль самооценки и гендерных различий в восприятии позитивной и негативной обратной связи при решении анаграмм // Когнитивная наука в Москве: Новые исследования. Материалы конференции 16 июня 2015 г. / Под ред. Е. В. Печенковой, М. В. Фаликман. Москва: БукиВеди, ИППИП, 2015. С. 469–474.
- Audia P., Locke E. Benefiting from negative feedback // Human Resource Management Review. 2003. Vol. 13. No. 4. P. 631–646. doi:10.1016/j.hrmr.2003.11.006
- Bandura A. Guide for constructing self-efficacy scales // Self-efficacy beliefs of adolescents / F. Pajares, T. Urdan (Eds.). Greenwich, CT: Information Age Publishing, 2006. P. 307–337. URL: <https://www.uky.edu/~eushe2/Bandura/BanduraGuide2006.pdf>.
- Bandura A. Self-efficacy: The exercise of control. NY.: Free-man and Company, 1997.
- Brockner J., Derr W. R., Laing W. N. Self-esteem and reactions to negative feedback: Toward greater generalizability // Journal of Research in Personality. 1987. Vol. 21. No. 3. P. 318–333. doi:10.1016/0092-6566(87)90014-6
- Brown J. D. High self-esteem buffers negative feedback: Once more with feeling // Cognition and Emotion. 2010. Vol. 24. No. 8. P. 1389–1404. doi:10.1080/02699930903504405
- Chart H., Grigorenko E. L., Sternberg R. J. Identification: The Aurora Battery // Critical issues and practices in gifted education / J. A. Plucker, C. M. Callahan (Eds.). Waco, TX: Prufrock, 2008. P. 281–301.
- Dahling J., Ruppel J. Learning goal orientation buffers the effects of negative normative feedback on test self-efficacy and reattempt interest // Learning and Individual Differences. 2016. Vol. 50. No. 2016. P. 296–301. doi:10.1016/j.lindif.2016.08.022
- Dweck C. S. Self-theories: Their role in motivation, personality, and development. Philadelphia: Psychology Press, Taylor and Francis group, 1999.
- Gerstenberg F. X. R., Imhoff R., Banse R., Altstötter-Gleich C., Zinkernagel A. and Schmitt M. How implicit-explicit consistency of the intelligence self-concept moderates reactions to performance feedback // European Journal of Personality. 2013. Vol. 27. No. 3. P. 238–255. doi:10.1002/per.1900
- Kappes A., Oettingen G., Pak H. Mental contrasting and the self-regulation of responding to negative feedback // Personality and Social Psychology Bulletin. 2012. Vol. 38. No. 7. P. 845–857. doi:10.1177/0146167212446833
- Kirk B., Schutte N., Hine D. Development and preliminary validation of an emotional self-efficacy scale // Personality and Individual Differences. 2008. Vol. 45. No. 5. P. 432–436. doi:10.1016/j.paid.2008.06.010
- Mackinnon S. P., Smith S. M., Carter-Rogers K. Multidimensional self-esteem and test derogation after negative feedback // Canadian Journal of Behavioural Science / Revue canadienne des sciences du comportement. 2015. Vol. 47. No. 1. P. 123–126. doi:10.1037/a0038364
- Mandelman S. D., Tan M., Kornilov S. A., Sternberg R. J., Grigorenko E. L. The metacognitive component of academic self-concept: The development of a triarchic self-scale // Journal of Cognitive Education and Psychology. 2010. Vol. 9. No. 1. P. 73–86. doi:10.1891/1945-8959.9.1.73
- Neisser U., Boodoo G., Bouchard T. J., Boykin A. W., Brody N., Ceci S. J., Halpern D. F., Loehlin J. C., Perloff R., Sternberg R. J., Urbina S. Intelligence: Knowns and unknowns // American Psychologist. 1996. Vol. 51. No. 2. P. 77–101. doi:10.1037//0003-066x.51.2.77
- Pietsch J., Walker R., Chapman E. The relationship among self-concept, self-efficacy, and performance in mathematics during secondary school // Journal of Educational Psychology. 2003. Vol. 95. No. 3. P. 589–603. doi:10.1037/0022-0663.95.3.589
- Plakht Y., Shiyovich A., Nusbaum L., Raizer H. The association of positive and negative feedback with clinical performance, self-evaluation and practice contribution of nursing students // Nurse Education Today. 2013. Vol. 33. No. 10. P. 1264–1268. doi:10.1016/j.nedt.2012.07.017
- Renzulli J. S. The three-ring conception of giftedness: A developmental model for creative productivity // Conceptions of giftedness / R. J. Sternberg, J. E. Davidson (Eds.). New York. Cambridge: Cambridge University Press, 1986. P. 53–92.
- Steele C. M. A threat in the air: How stereotypes shape intellectual identity and performance // American Psychologist. 1997. Vol. 52. No. 6. P. 613–629. doi:10.1037/0003-066x.52.6.613