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Audience Effect under Task Context: Self-Evaluation, Cognitive Costs, and Social Rewards

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Abstract. Although the presence of an audience can promote or hinder task performance, the reasons for these opposite results have not been fully explored in psychological studies. The three ways in which research has examined the impact of audiences are self-esteem and self-evaluation, cognitive costs under task load, and expected social evaluation and rewards. First, the presence of the audience can trigger expectations for others' evaluations, and the outcomes are influenced by self-esteem, perceived ability, etc. Secondly, attention to or evaluation of others can draw on working memory; as a result, one may be less able to concentrate or use extra effort to improve performance. Third, the expected recognition or damage to reputation following a public event may change people's behaviour due to hopes of success or failure. Task proficiency, the type of cognitive load and characteristics of the audience in these pathways, all affect whether social presence improves or reduces performance. Reviewers have added that anxiety and other emotions may occur at different times in relation to the change in performance and are not always caused by this change. Future research will independently examine the pre-task expectations, processing demands, audience evaluations and post-task behaviours of individuals and target interventions to address the specific causes of performance changes.

Keywords: social facilitation, audience effects, self-esteem, cognitive load, social evaluation

1. Introduction

The presence of others would possibly alter an individual's task performance; however, this alteration is not destined to go in any direction. Early research on competition, word association, and motor reactions has found that performing tasks together or being observed while doing so can increase speed on certain tasks, yet may also hinder the learning of new responses. Based on this, Zajonc proposed that social presence increases the impact of dominant responses; when the dominant response is correct, performance generally improves, but if the task is unfamiliar to an individual, the dominant response may be incorrect, and thus performance will drop. Subsequent meta-analyses have shown that the effect is generally small and varies according to the characteristics of the task and measurement index. Therefore, the audience effect in a task situation is best viewed as a change in behaviour caused by the presence of others, rather than an improvement in performance [1-6].

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The same audience and context can be associated with different results based on the conditions of the actor, the task, and the audience. A person's self-perception will affect what they expect others to think of them; the demands of a task will determine how much energy is available for social processing; and whether the audience can judge changes in the work will also modify the meaning of success and failure. The three parts of this paper are self-esteem and self-evaluation, cognitive cost, and social evaluation and reward, and their interaction in specific tasks will be investigated.

Although there is tension and restlessness among the audience, it does not necessarily mean that a new section of the play has started. A person may first expect a negative evaluation from the audience, then increase self-monitoring and shift focus away from the task, and finally experience even greater tension as a result of errors; conversely, they may make errors initially due to the inherent difficulty of the task and only then become concerned about how the audience perceives them. If only the latter emotions are taken as the reasons, then the corresponding interventions will only alleviate one's own feelings of unease and fail to address the root causes of the errors, such as evaluative anticipations (expectations), resource competition, or task arrangement. Therefore, to understand the effect on the audience and improve task performance, we first need to know when it happens.

2. Self-esteem and self-appraisal

Self-esteem affects the significance a person gives to the attention of others. It is a general feeling of one's self-worth that is not necessarily associated with one's ability in a particular task. When an actor is in front of an audience, even without direct feedback, they may be aware of how they appear to others and adjust their performance accordingly. The presence of an audience causes self-consciousness, and similarly, cues that attract attention to oneself, such as a mirror, can change one's behaviour in daily life. Based on the above results, the effect of the audience is not limited to after the feedback but may start as soon as the actor is aware of being watched [7-9].

The social function of self-esteem may motivate people to seek approval from others. According to the theory of sociometry, self-esteem is related to one's sense of being loved and accepted. Therefore, a public performance can be both an activity and a way to gain attention from others. Whether or not to include the factor of social evaluation in self-assessment depends on whether one believes that the audience can be judged fairly, whether the audience's opinion is significant, and whether the result of the task shows one's own ability. If the actor does not believe that the audience is observing them, then inferring a threat to self-esteem based solely on the presence of the audience may overestimate the effect of this path [10].

Although high self-esteem is often associated with a greater desire for acceptance, it does not necessarily lead to better performance by an individual in front of others. Terry and Kearnes compared the performance of people with different levels of self-esteem in conditions of camera observation and when performing a task alone; they found that people with low self-esteem performed worse on simple tasks when observed by a camera—a performance decline that did not occur in people with high self-esteem—and the pattern of results for complex tasks was different. This shows that, firstly, the relationship between self-esteem and the presence of an audience depends on the characteristics of the task, and secondly, high self-esteem is not directly related to high task competence. A positive self-assessment is more likely to lead to sustained effort in the task by the individual if they believe they can achieve the goal and expect that excellent performance will receive praise [11].

People with low self-esteem do not want to hear bad news about themselves, but they are more likely to be anxious about such news. The two are not the same, and they are the desire for

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something versus the expectation of that thing. Swann and others have found that a person's cognitive acceptance of feedback and their emotional response to it are independent; evaluations in line with one's current self-concept are more likely to be believed, even if positive evaluations are still pleasant. Will and others have found that in a social evaluation task, individuals with low self-esteem have lower expectations for acceptance by others and their sense of self-worth is more easily affected by feedback. Therefore, when praised, people with low self-esteem may feel happy but are also uncertain about the truth of the praise; on the other hand, when criticized, they may be hurt and become more anxious about their own performance [12, 13].

Self-esteem stability determines the magnitude of the impact that evaluations have on an individual and should not be conflated with the level of self-esteem. Individuals with unstable self-esteem may be more sensitive to immediate feedback; however, upon receiving criticism, they do not necessarily form negative self-judgments—they might instead question the evaluator. Fluctuations in state self-esteem are also related to the difference between actual feedback and initial expectation; unexpected recognition may improve current feelings, while evaluations that fall short of expectations may cause a previously confident person to feel disappointed. Thus, the process by which an audience influences emotions and attitudes involves evaluation expectations, feedback credibility, and the renewing of self-evaluations. It cannot be oversimplified into a scenario where high self-esteem leads to a positive reaction upon praise, while low self-esteem leads to a negative reaction upon receiving attention [14, 15].

Explaining the link between the self-evaluation pathway and task performance requires a behavioral component. Positive or negative self-perception might alter an actor's tendency to approach tasks, avoid failure, and check for errors, but improved emotion does not equate to an increased accuracy rate. From a self-presentation perspective, actors may adjust their learning and response strategies to maintain a specific public image; in this case, the presence of an audience can even hinder the learning of simple components embedded within complex tasks. Therefore, to determine whether self-esteem influences the audience effect, it is necessary to separately measure baseline self-esteem, evaluation anticipation (expectations), real-time self-evaluation, and objective performance [16].

3. Cognitive cost and task load

The second path for the audience effect is provided by the allocation of limited cognitive resources. Cognitive resources refer to the speed and extent of a person's use of information and attention in a short period to make decisions and control behaviour. Research on working memory shows that the simultaneous retention and manipulation of information have an inherent conflict, and studies of cognitive load indicate that the processing capacity of the task itself interferes with learning and problem-solving. Auditory and visual stimuli can cause interference; similarly, the facial expressions and movements of the audience, as well as any evaluations they make, can be sources of task-irrelevant information [17, 18].

According to distraction-conflict theory, the impact of the audience on attention competition between the task and social cues varies. According to the results of experiments, external distractions can affect people's performance in simple and complex tasks, and the presence of an audience is likely to increase this distraction. Co-actors are more likely to attract the attention of the audience when the performer wants to compare. Based on this, Baron proposed that attentional conflict can reduce the scope of attention; although this shift is advantageous for tasks that need to process only a few key cues, it may result in errors in tasks requiring the simultaneous integration of

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multiple pieces of information due to the possibility of missing cues. Thus, the presence of others increases the demand for processing but does not reduce performance [19-22].

Cognitive Load is the product of task demand and a person's ability to handle the task. The capable ones can use the existing rules and knowledge system to reduce the need for step-by-step monitoring; beginners need to learn the rules and filter information themselves. Classic research on audience effects has shown that the presence of others can have different impacts on familiar and unfamiliar behaviours; moreover, performances of complex action learning or evaluative contexts vary according to the stage of practice. Therefore, one cannot judge the difficulty of a task by the inherent difficulty of the material alone; good strategies for completing the task that a person has learned should also be taken into account [23, 24].

Changes in the Attention of an Audience can also be viewed as modifications to Cognitive Control. Huguet and others found that in some Stroop tasks, the presence of an audience or a co-actor reduced interference caused by irrelevant word meanings; subsequent studies that have reproduced this phenomenon have proposed alternative explanations for the underlying mechanisms, such as task selection. Other studies have also reported on the effect of social presence on the interference effect in semantic Stroop tasks. These results indicate that when the audience is motivated, the actor will pay more attention to the demands of the task, and therefore, changes in attention cannot be solely attributed to a reduction in resources; instead, they are related to the particular control mechanisms required by the task [25-27].

A high working-memory load is likely to result in behavioural disengagement due to the increased demand of social situations. Ito and his colleagues had the participants observe their own performance in working-memory tasks under different loads; they found that the highest load led to an increase in both error rates and prefrontal cortex activity, but all levels of load increased autonomic arousal. Dumontheil and others found that in a relational reasoning task, peer observation reduced the error rate under difficult circumstances; Wolf and colleagues also showed that the strength of the audience effect for adolescents changes with the difficulty of the task and the identity of the audience. Although these studies have provided support for the moderating effect of load, evaluative observations often involve other factors, such as competition, ranking, or the specific identity of the observer, and thus the changes in observation cannot be attributed solely to the physical presence of an audience [28-30].

The existence of an alternative processing path for a task may also be a cause of increased cognitive load. Belletier and Camos's working memory experiment showed that, for the condition requiring attention maintenance, the addition of an experimenter had a stronger effect. Camos, Jubin, and Belletier increased the sample size and changed the secondary task to find that the presence of an experimenter impaired memory performance when rehearsal was blocked and extra judgments were required for participants; on the other hand, recall was less affected in cases of silent rehearsal or when no secondary task was present. It is not that the task itself is unreasonable; rather, it is that the resources the audience desires for competition are not available for the task [31, 32].

A lack of change in behaviour indicators does not mean that there are no additional processing costs for the audience. Under evaluative conditions, EEG activity in error monitoring may be enhanced without a corresponding drop in accuracy; similarly, research on auditory tasks has found that the presence of others can increase listening effort without affecting the final identification performance. This division of behaviour and process indicators may be due to extra effort, strategic adjustment, or increased self-monitoring; thus, an increase in neural activity alone cannot be considered effective compensation. To extend the exploration of the compensation hypothesis, it is

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also necessary to investigate whether the additional investment can be linked to sustained high performance and to rule out measurement problems, such as a reduction in the accuracy rate near the upper bound [33, 34].

Specific Types of Cognitive Load Need to be identified. A high load on working memory or executive control may make it difficult for an actor to inhibit task-irrelevant information, and a high perceptual load may reduce the processing of irrelevant stimuli in some tasks. According to anxiety theory, the goal of a task and how efficiently one achieves it both affect anxiety; thus, a person may be anxious and reduce the quality of their work due to increased stress. Tension among the audience can also be one of the reasons for this; however, to determine whether this explanation is valid, anxiety, effort, and the distribution of attention must also be measured simultaneously [35-37].

Different Forms of presence may also attract different attention. Neuroscientific research has found that the mere presence of others can change activity in the attention network, and studies on work monitoring have shown that both in-person observation and electronic monitoring can affect performance on complex tasks; however, the skill level of employees moderates the impact of monitoring on data entry. Therefore, in the discussion of the intensity of an audience, it is proposed to look beyond just the number of people present and also to consider factors such as the continuity of observation, whether work outcomes are recorded, and the extent to which the actor can control the conditions of observation [38-40].

4. Evaluation expectation and social reward

The third pathway through which an audience influences performance involves altering the social value of the task outcome. When a task is performed in isolation, success is primarily defined by goal attainment; however, in the presence of an audience capable of evaluation, success may also signify the recognition of competence, while failure risks damaging one's public image. By distinguishing between an audience capable of observing (evaluating) the task and people who are merely present but unable to observe (evaluate) it, Cottrell et al. found that these two situations have different effects on the dominant response; research by Henchy and Glass also highlights the significance of an evaluative audience. Therefore, whether the audience is capable of evaluating the performance—and whether the actor believes such evaluation will take place—lies closer to the core of the social evaluation pathway than the mere physical presence of another person [41, 42].

The valence of an evaluation depends on the actor's own judgement of the perceived likelihood of success. Research by Good indicates that an evaluative audience is more likely to exert a facilitating effect when individuals expect to perform well. Sanna and Shotland further found that participants expecting success outperformed those working alone when in the presence of an audience; while individuals expecting failure tended to anticipate negative evaluations, the evidence for a decline in their overall performance was less consistent than the evidence for positive facilitation. Subsequently, employing a self-efficacy framework, Sanna discovered that individuals with high self-efficacy performed better under evaluation, whereas those with low self-efficacy might perform worse. Thus, presenting oneself while performing a task at which one excels can be advantageous for two reasons: task proficiency and the belief that success will gain recognition—factors that should be distinguished from one another [43-45].

Social rewards might have the effect of increasing the incentive value of public performance, yet incentive enhancement is not the same as performance improvement. In a study involving a trained motor task, Chib, Adachi, and O'Doherty found that success rates increased when participants were observed and noted changes in neural activity associated with value processing. While evaluation may motivate an actor to exert greater effort, it can also lead to an excessive focus on outcomes. In

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cognitive tasks such as the Remote Associates Test, whether the evaluation-induced facilitation of a dominant response actually improves performance depends on whether that response is correct and whether the actor has sufficient time to verify the answer. Therefore, analyses of reward mechanisms should integrate task structure with behavioral indicators, and should not infer specific social recognition processes based solely on brain region activity [46, 47].

A friendly audience does not always lead to better performance. While a supportive audience may reduce subjective pressure, it may also heighten the performer's concern about disappointing the audience. In studies involving skill-based tasks, Butler and Baumeister found that a supportive audience was sometimes associated with slower speeds and impaired performance, even though participants subjectively perceived such an audience as more helpful. Research on virtual reality public speaking training has shown that a supportive audience can improve certain confidence-related evaluations in subsequent speeches, though not all dimensions of performance see improvement. Therefore, friendliness, anticipated approval, and objective performance should be treated as distinct variables [48, 49].

The same audience can trigger either a sense of challenge or a sense of threat depending on the task. Blascovich et al. found that performing a well-learned task versus an unmastered task in the presence of an audience results in distinct cardiovascular response patterns. Comparing evaluation and distraction manipulations within the same experimental design, Feinberg and Aiello found that performance facilitation on simple tasks occurred primarily under evaluation conditions, whereas performance impairment on complex tasks could result from either evaluation or distraction; furthermore, combining these two conditions did not consistently amplify the effect across all tasks. These results suggest that the expectation of evaluation, motivational investment, and resource occupation may co-occur, and that these three explanations should not be viewed as mutually exclusive [50, 51].

5. Discussion and intervention implications

It will be different for different people; people are also motivated by goals and other reasons. People with low self-esteem who are unfamiliar with a particular task may also expect a negative evaluation; therefore, they will have to use more cognitive energy to learn about the task and repeatedly observe how others respond, and any mistakes will increase this tension. At the same time, those who are capable of doing the task and expect a fair reward may have more resources and be more eager to participate. Research on the electronic performance monitoring of workers has shown that skilled and unskilled workers have different performance patterns, and simple observation does not yield specific results. The latter errors or feelings of anxiety can be considered links in this process chain rather than the root causes [40].

Separate measurements of the main factors in the three paths should be taken in the research design. Self-esteem level and stability before the task can be assessed, and task proficiency can be determined by means such as pre-tests or practice performance; cognitive load is regulated by adjusting the demands on working memory and executive control. Distinguish among the following factors of the audience: actual attendance, evaluative capacity, provision of feedback, and audience identity. Record pre-task expectations of success and evaluation, attention and effort in the task, and post-task emotions and self-assessments. Division of periods and modes may have been used by the researchers to determine whether tension is a cause, a mediator, or a result of changes in performance.

Strategies for the improvement of performance should address the particular problems. If the main reason is a deficiency in cognitive resources, then practice, task division, and reduction of

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simultaneous information processing can be employed to lower cognitive load. If the main reason is excessive negativity about the evaluation, set specific and achievable goals for the evaluation. When the public performance is for motivation, inform the performer of the necessary steps to succeed so that a single mistake is not taken as a failure of all-around ability. Based on the above research, increasing the sense of autonomy for complex tasks or adjusting the intensity of supervision may reduce performance decline among employees. Although these methods can reduce the stress of some people to some extent, they are not universally suitable and should be used with caution [39].

6. Conclusion

An audience's gaze can serve as a cue for self-evaluation, a competitor for attentional resources, and a source of social recognition. Self-esteem influences how evaluations are anticipated and interpreted; cognitive load determines when additional processing interferes with the task; and evaluations, along with rewards, shape the subjective value of public success. By integrating these three pathways, the question of why an audience sometimes enhances performance and at other times hinders it, and why overt emotion alone is insufficient to account for variations in task performance, could be approached.

References

[1] Triplett, N. (1898). The dynamogenic factors in pacemaking and competition. *The American Journal of Psychology, 9*(4), 507–533. https://doi.org/10.2307/1412188
[2] Allport, F. H. (1920). The influence of the group upon association and thought. *Journal of Experimental Psychology, 3*(3), 159–182.
[3] Zajonc, R. B. (1965). Social facilitation. *Science, 149*(3681), 269–274. https://doi.org/10.1126/science.149.3681.269
[4] Zajonc, R. B., & Sales, S. M. (1966). Social facilitation of dominant and subordinate responses. *Journal of Experimental Social Psychology, 2*(2), 160–168. https://doi.org/10.1016/0022-1031(66)90077-1
[5] Bond, C. F., Jr., & Titus, L. J. (1983). Social facilitation: A meta-analysis of 241 studies. *Psychological Bulletin, 94*(2), 265–292. https://doi.org/10.1037/0033-2909.94.2.265
[6] Aiello, J. R., & Douthitt, E. A. (2001). Social facilitation from Triplett to electronic performance monitoring. *Group Dynamics: Theory, Research, and Practice, 5*(3), 163–180. https://doi.org/10.1037/1089-2699.5.3.163
[7] Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton University Press.
[8] Carver, C. S., & Scheier, M. F. (1978). Self-focusing effects of dispositional self-consciousness, mirror presence, and audience presence. *Journal of Personality and Social Psychology, 36*(3), 324–332. https://doi.org/10.1037/0022-3514.36.3.324
[9] Wicklund, R. A., & Duval, S. (1971). Opinion change and performance facilitation as a result of objective self-awareness. *Journal of Experimental Social Psychology, 7*(3), 319–342. https://doi.org/10.1016/0022-1031(71)90032-1
[10] Leary, M. R., Tambor, E. S., Terdal, S. K., & Downs, D. L. (1995). Self-esteem as an interpersonal monitor: The sociometer hypothesis. *Journal of Personality and Social Psychology, 68*(3), 518–530. https://doi.org/10.1037/0022-3514.68.3.518
[11] Terry, D. J., & Kearnes, M. (1993). Effects of an audience on the task performance of subjects with high and low self-esteem. *Personality and Individual Differences, 15*(2), 137–145. https://doi.org/10.1016/0191-8869(93)90020-4
[12] Swann, W. B., Jr., Griffin, J. J., Jr., Predmore, S. C., & Gaines, B. (1987). The cognitive-affective crossfire: When self-consistency confronts self-enhancement. *Journal of Personality and Social Psychology, 52*(5), 881–889. https://doi.org/10.1037/0022-3514.52.5.881
[13] Will, G.-J., Moutoussis, M., Womack, P. M., Bullmore, E. T., Goodyer, I. M., Fonagy, P., Jones, P. B., NSPN Consortium, Rutledge, R. B., & Dolan, R. J. (2020). Neurocomputational mechanisms underpinning aberrant social learning in young adults with low self-esteem. *Translational Psychiatry, 10*, 96. https://doi.org/10.1038/s41398-020-0702-4

DOI: 10.54254/2753-7048/2027.39153

[14] Kernis, M. H., Cornell, D. P., Sun, C.-R., Berry, A., & Harlow, T. (1993). There's more to self-esteem than whether it is high or low: The importance of stability of self-esteem. *Journal of Personality and Social Psychology, 65*(6), 1190–1204. https://doi.org/10.1037/0022-3514.65.6.1190
[15] Will, G.-J., Rutledge, R. B., Moutoussis, M., & Dolan, R. J. (2017). Neural and computational processes underlying dynamic changes in self-esteem. *eLife, 6*, e28098. https://doi.org/10.7554/eLife.28098
[16] Bond, C. F., Jr. (1982). Social facilitation: A self-presentational view. *Journal of Personality and Social Psychology, 42*(6), 1042–1050. https://doi.org/10.1037/0022-3514.42.6.1042
[17] Baddeley, A. D., & Hitch, G. J. (1974). Working memory. In G. H. Bower (Ed.), *The psychology of learning and motivation (Vol. 8, pp. 47–89)*. Academic Press. https://doi.org/10.1016/S0079-7421(08)60452-1
[18] Sweller, J. (1988). Cognitive load during problem solving: Effects on learning. *Cognitive Science, 12*(2), 257–285. https://doi.org/10.1207/s15516709cog1202_4
[19] Sanders, G. S., & Baron, R. S. (1975). The motivating effects of distraction on task performance. *Journal of Personality and Social Psychology, 32*(6), 956–963. https://doi.org/10.1037/0022-3514.32.6.956
[20] Baron, R. S., Moore, D. L., & Sanders, G. S. (1978). Distraction as a source of drive in social facilitation research. *Journal of Personality and Social Psychology, 36*(8), 816–824. https://doi.org/10.1037/0022-3514.36.8.816
[21] Sanders, G. S., Baron, R. S., & Moore, D. L. (1978). Distraction and social comparison as mediators of social facilitation effects. *Journal of Experimental Social Psychology, 14*(3), 291–303. https://doi.org/10.1016/0022-1031(78)90017-3
[22] Baron, R. S. (1986). Distraction-conflict theory: Progress and problems. *Advances in Experimental Social Psychology, 19*, 1–40. https://doi.org/10.1016/S0065-2601(08)60211-7
[23] Markus, H. (1978). The effect of mere presence on social facilitation: An unobtrusive test. *Journal of Experimental Social Psychology, 14*(4), 389–397. https://doi.org/10.1016/0022-1031(78)90034-3
[24] Martens, R. (1969). Effect of an audience on learning and performance of a complex motor skill. *Journal of Personality and Social Psychology, 12*(3), 252–260.
[25] Huguet, P., Galvaing, M. P., Monteil, J. M., & Dumas, F. (1999). Social presence effects in the Stroop task: Further evidence for an attentional view of social facilitation. *Journal of Personality and Social Psychology, 77*(5), 1011–1025. https://doi.org/10.1037/0022-3514.77.5.1011
[26] Klauer, K. C., Herfordt, J., & Voss, A. (2008). Social presence effects on the Stroop task: Boundary conditions and an alternative account. *Journal of Experimental Social Psychology, 44*(2), 469–476. https://doi.org/10.1016/j.jesp.2007.02.009
[27] Augustinova, M., & Ferrand, L. (2012). The influence of mere social presence on Stroop interference: New evidence from the semantically-based Stroop task. *Journal of Experimental Social Psychology, 48*(5), 1213–1216. https://doi.org/10.1016/j.jesp.2012.04.014
[28] Ito, H., Yamauchi, H., Kaneko, H., Yoshikawa, T., Nomura, K., & Honjo, S. (2011). Prefrontal overactivation, autonomic arousal, and task performance under evaluative pressure: A near-infrared spectroscopy study. *Psychophysiology, 48*(11), 1563–1571. https://doi.org/10.1111/j.1469-8986.2011.01220.x
[29] Dumontheil, I., Wolf, L. K., & Blakemore, S.-J. (2016). Audience effects on the neural correlates of relational reasoning in adolescence. *Neuropsychologia, 87*, 85–95. https://doi.org/10.1016/j.neuropsychologia.2016.05.001
[30] Wolf, L. K., Bazargani, N., Kilford, E. J., Dumontheil, I., & Blakemore, S.-J. (2015). The audience effect in adolescence depends on who's looking over your shoulder. *Journal of Adolescence, 43*, 5–14. https://doi.org/10.1016/j.adolescence.2015.05.003
[31] Belletier, C., & Camos, V. (2018). Does the experimenter presence affect working memory? *Annals of the New York Academy of Sciences, 1424*(1), 212–220. https://doi.org/10.1111/nyas.13627
[32] Camos, V., Jubin, J., & Belletier, C. (2025). Does the experimenter presence affect verbal working memory? *Journal of Cognition, 8*(1), 47. https://doi.org/10.5334/joc.461
[33] Hajcak, G., Moser, J. S., Yeung, N., & Simons, R. F. (2005). On the ERN and the significance of errors. *Psychophysiology, 42*(2), 151–160. https://doi.org/10.1111/j.1469-8986.2005.00270.x
[34] Pielage, H., Zekveld, A. A., Saunders, G. H., Versfeld, N. J., Lunner, T., & Kramer, S. E. (2021). The presence of another individual influences listening effort, but not performance. *Ear and Hearing, 42*(6), 1577–1589. https://doi.org/10.1097/AUD.0000000000001046
[35] Lavie, N., Hirst, A., de Fockert, J. W., & Viding, E. (2004). Load theory of selective attention and cognitive control. *Journal of Experimental Psychology: General, 133*(3), 339–354. https://doi.org/10.1037/0096-3445.133.3.339
[36] Eysenck, M. W., & Calvo, M. G. (1992). Anxiety and performance: The processing efficiency theory. *Cognition and Emotion, 6*(6), 409–434. https://doi.org/10.1080/02699939208409696
[37] Eysenck, M. W., Derakshan, N., Santos, R., & Calvo, M. G. (2007). Anxiety and cognitive performance: Attentional control theory. *Emotion, 7*(2), 336–353. https://doi.org/10.1037/1528-3542.7.2.336

DOI: 10.54254/2753-7048/2027.39153

[38] Monfardini, E., Redouté, J., Hadj-Bouziane, F., Hynaux, C., Fradin, J., Huguet, P., Costes, N., & Meunier, M. (2016). Others' sheer presence boosts brain activity in the attention (but not the motivation) network. *Cerebral Cortex, 26*(6), 2427–2439. https://doi.org/10.1093/cercor/bhv067

[39] Aiello, J. R., & Svec, C. M. (1993). Computer monitoring of work performance: Extending the social facilitation framework to electronic presence. *Journal of Applied Social Psychology, 23*(7), 537–548. https://doi.org/10.1111/j.1559-1816.1993.tb01102.x

[40] Aiello, J. R., & Kolb, K. J. (1995). Electronic performance monitoring and social context: Impact on productivity and stress. *Journal of Applied Psychology, 80*(3), 339–353. https://doi.org/10.1037/0021-9010.80.3.339

[41] Cottrell, N. B., Wack, D. L., Sekerak, G. J., & Rittle, R. H. (1968). Social facilitation of dominant responses by the presence of an audience and the mere presence of others. *Journal of Personality and Social Psychology, 9*(3), 245–250. https://doi.org/10.1037/h0025902

[42] Henchy, T., & Glass, D. C. (1968). Evaluation apprehension and the social facilitation of dominant and subordinate responses. *Journal of Personality and Social Psychology, 10*(4), 446–454. https://doi.org/10.1037/h0026814

[43] Good, K. J. (1973). Social facilitation: Effects of performance anticipation, evaluation, and response competition on free associations. *Journal of Personality and Social Psychology, 28*(2), 270–275. https://doi.org/10.1037/h0035790

[44] Sanna, L. J., & Shotland, R. L. (1990). Valence of anticipated evaluation and social facilitation. *Journal of Experimental Social Psychology, 26*(1), 82–92. https://doi.org/10.1016/0022-1031(90)90063-R

[45] Sanna, L. J. (1992). Self-efficacy theory: Implications for social facilitation and social loafing. *Journal of Personality and Social Psychology, 62*(5), 774–786. https://doi.org/10.1037/0022-3514.62.5.774

[46] Chib, V. S., Adachi, R., & O'Doherty, J. P. (2018). Neural substrates of social facilitation effects on incentive-based performance. *Social Cognitive and Affective Neuroscience, 13*(4), 391–403. https://doi.org/10.1093/scan/nsy024

[47] McFall, S. R., Jamieson, J. P., & Harkins, S. G. (2009). Testing the mere effort account of the evaluation-performance relationship. *Journal of Personality and Social Psychology, 96*(1), 135–154. https://doi.org/10.1037/a0012878

[48] Butler, J. L., & Baumeister, R. F. (1998). The trouble with friendly faces: Skilled performance with a supportive audience. *Journal of Personality and Social Psychology, 75*(5), 1213–1230. https://doi.org/10.1037/0022-3514.75.5.1213

[49] Kroczek, L. O. H., & Mühlberger, A. (2023). Public speaking training in front of a supportive audience in virtual reality improves performance in real-life. *Scientific Reports, 13*, 13968. https://doi.org/10.1038/s41598-023-41155-9

[50] Blascovich, J., Mendes, W. B., Hunter, S. B., & Salomon, K. (1999). Social facilitation as challenge and threat. *Journal of Personality and Social Psychology, 77*(1), 68–77. https://doi.org/10.1037/0022-3514.77.1.68

[51] Feinberg, J. M., & Aiello, J. R. (2006). Social facilitation: A test of competing theories. *Journal of Applied Social Psychology, 36*(5), 1087–1109. https://doi.org/10.1111/j.0021-9029.2006.00032.x