Verbal praise is often used to reinforce desired behaviors. It provides feedback about specific performance and may guide future performance. Praise has been shown to increase athletic performance (Anderson, Crowell, Doman, & Howard, 1988) as well as academic performance. However, the type of encouragement can lead to different outcomes. Participants in the current study completed a difficult line maze while either being praised in the form of encouraging comments (“You’re doing fine,” “You’re doing great”) or less encouraging comments (“You’re taking too long,” “Hurry up”). Time to complete the maze was recorded in seconds. Analyses showed that praise in the form of encouraging comments significantly reduced the time to complete the maze ($p = .001$) and to complete the maze in general ($p < .001$). Implications of the findings and suggestions for future research are discussed.

The Effect of Verbal Praise on Maze Completion

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ABSTRACT. The purpose of the present study was to examine the relationship between verbal praise and performance. Past literature has supported the positive impact that encouragement has on performance. Praise has been found to increase athletic performance (Anderson, Crowell, Doman, & Howard, 1988) as well as academic performance. However, the type of encouragement can lead to different outcomes. Participants in the current study completed a difficult line maze while either being praised in the form of encouraging comments (“You’re doing fine,” “You’re doing great”) or less encouraging comments (“You’re taking too long,” “Hurry up”). Time to complete the maze was recorded in seconds. Analyses showed that praise in the form of encouraging comments significantly reduced the time to complete the maze ($p = .001$) and to complete the maze in general ($p < .001$). Implications of the findings and suggestions for future research are discussed.
Skipper and Douglas (2012) examined which behavior would follow certain positive or negative feedback. School-age children were given common everyday school scenarios. The students then answered questions about how they felt about the situation. The first two scenarios involved the students succeeding at math problems, and the last scenario involved them experiencing failure. After each scenario, the students received an objective praise, a person or process praise, or no praise. Skipper and Douglas (2012) found that students in the person praise condition rated lowest on all perceived performance and showed less persistence. The researchers concluded that children in the person praise condition showed a measure of negative response to a single failure than those who received process praise or no praise. This study was replicated at the university level using the same procedure and methodology. However, the level of persistence did not change between the three groups at the university level. Similarly, Neapolitan (1988) previously reported that, among a sample of college students, specific praise for performance was more likely to lead to improved performance, and general praise was less likely to lead to improved performance.

In addition to motivation and performance attribution, verbal praise has also been demonstrated to influence time spent on a desired task. Hancock (2000) found that college students, who received public verbal praise on the amount of time spent on homework in preparation for class, studied significantly more outside of the classroom. Hancock (2000) suggested that the specificity and immediacy of the praise, as well as the public nature of the praise, affected the students’ motivation compared to students who did not receive the verbal praise. Similarly, Webster, Duvall, Gaines, and Smith (2003) examined the relationship between praise and the experience of pride. Participants completed the Tower of Hanoi, a mathematical puzzle, and either received praise by way of a congratulatory comment, received praise by way of a congratulatory comment in combination with a social comparison comment acknowledging superior performance, or were simply acknowledged for completing the task. Results found that both praise and praise in combination with social comparison led to higher levels of self-pride. Webster et al. (2003) suggested that praise alone might inspire feelings of pride because praise implies social comparison information. Those who feel pride in their performance might be more motivated to complete tasks.

Corpus, Ogle, and Love-Geiger (2006) also examined how different types of praise impacted motivation. Their study included elementary-aged children who completed three puzzles that increased in difficulty as they progressed. After each puzzle, the students in the first group received social-comparison praise and the second group received “mastery praise” for their work. The third group did not receive any praise for their work. Participants were then asked to participate in three stations. The first station was designed for the students to learn new things and new ideas. The second station helped students compare their score to others. The third station helped students determine their own “personal creative style.” Corpus et al. (2006) found that children in the mastery praise condition reported the highest levels of intrinsic motivation followed by those in the control condition and finally by those in the social-comparison praise condition. Similarly, Koestner, Zuckerman, and Koestner’s (1987) study on praise and intrinsic motivation found that, when participants were praised for their hard work at completing puzzles, they spent more time on the puzzles and reported higher intrinsic motivation compared to those who were praised for their ability or skill.

Although praise is often used to enhance performance, Baumeister et al. (1990) investigated the role of praise in impairing performance. Their first experiment examined the effects of praise after success. This was measured by a video game called Dodgem, which required participants to try to avoid crashing into cars while controlling another. Participants were told to aim for their best score, and after reaching, exceeding, or coming close to this score, a positive praise was given. The researchers then measured the score immediately following the praise, and found that performance following success and praise was below the performers’ overall average, which provided initial evidence that praise for an outstanding public performance can cause a subsequent decrement in skilled performance. Another experiment examined the relationship between praise and effort when sorting half a deck of cards by suits. One group received praise, and a control group did not. Baseline times were reached after a few practice trials. After each trial, the experimental group was praised, and the researchers found that this task-relevant praise increased effort on the subsequent trial. In this case, praise produced effects opposite to what the preceding studies showed with skill tasks.
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Verbal praise has been demonstrated to positively impact specific behaviors related to task performance and completion and motivation to complete tasks. Another focus of the role of praise has been on classroom behavior. An experiment by Cossairt, Hall, and Hopkins (1973) examined the influence of positive feedback on attending behavior in the classroom. Positive feedback was defined as direct student praise (e.g., “Good job, Johnny!” or as a whole “Great job class!” by the teacher). Disruptive behavior was defined as any behavior interfering or disrupting the students’ work often accompanied by a negative remark from the teacher. The baseline was determined a few days before the actual experiment by counting the number of times the teacher praised or gave feedback to the students. On the days of the experiment, most teachers’ praise increased from one remark to nearly four per class. The results showed that, as praise and feedback increased, the percentage of students participating in attentive behavior also increased. Cossairt et al. (1973) found that intervals of student attending behavior rose from the baseline mean of 62% to a mean of 94%. Nearly the entire class was participating in attending behavior when the praise and positive comments increased. The students seemed to be more engaged during the class time and more willing to participate when called on, which led to a more productive class when compared to the baseline evaluations. Similarly, Moore Partin, Robertson, Maggin, Oliver, and Wehby (2010) reported that teachers trained to provide praise to reinforce students’ appropriate behavior tended to agree that such praise improved the atmosphere in the classroom. Behavior specific praise can be taught to teachers and improve on-task behaviors of students (Allday et al., 2012).

Several factors related to praise have been identified that influence performance, persistence, motivation, and time spent on a task. The present study was designed to further examine the role of praise in the form of encouraging comments on the completion of a difficult maze. The maze completion task was chosen because it does not require any specific skills related to academic achievement or prior experience. Under a timed condition however, it might require a measure of persistence and motivation. Previous studies have similarly examined the role of praise on performance of tasks involving puzzles and games (Baumeister et al., 1990; Koestner et al., 1987). The hypothesis of the present study was that praising performance on the maze, through encouraging comments, would lead to a faster completion time compared to less encouraging comments.

Method

Participants

Forty adult participants ranged in age from 18 to 55 (M = 25.45, SD = 11.83). Eighteen participants were women. Most participants were college students (77.5%). Race was not recorded. However, most of the sample was White.

Materials

A complex maze was selected from the online website Printable Mazes for Adults (2011), for each participant to complete (maze available upon request). Two scripts were created, which were recited during the maze completion task (see Appendices A and B). The first script was an encouraging script. At the 30 s, 1 min, 1.5 min, 2 min, 3 min, and 4 min marks, participants heard a prepared statement designed to encourage the completion of the maze (e.g., “You’re doing fine,” “You’re doing great”). At 1.5 min, an extra statement in the encouraging script was added to encourage further relaxation and reduce errors. The other script was less encouraging and was designed to make participants feel rushed and frustrated (e.g., “You’re taking too long,” “Hurry up”). At the 30 s, 1 min, 2 min, 3 min, 4 min, and 5 min marks, participants heard a prepared statement from this script. No extra statement was included at the 1.5 min mark in the less encouraging script.

Procedure

After institutional review board approval (#00005689) was given, participants were approached individually and invited to participate. Participants were given 5 min to complete the maze as fast as possible. Participants were divided into two groups. One group heard the encouraging script while completing the maze, and the other group heard the less encouraging script while completing the maze. If the maze was completed in less than 5 min, the time was recorded in seconds. If participants did not complete the maze in 5 min, the time of 5:01 (301 s) was recorded.
Results

A t test found a significant difference between the encouraging and less encouraging groups on time to complete the maze, $t(38) = 3.41, p = .001, d = 1.08$. The mean completion time for the encouraging group was $175.40 \text{s (SD = 61.42 s)}$ and the mean completion time for the less encouraging group was $248.80 \text{s (SD = 74.13 s)}$. No participants completed the maze in less than 1 min.

A chi-squared analysis found that participants in the less encouraging group were significantly less likely to finish the maze $\chi^2(1) = 15.17, p < .001$. Fifty-five percent of the less encouraging group gave up on attempting to complete the maze prior to the 5 min mark. No participants in the encouraging group gave up without completing the maze. Everyone in the encouraging group completed the maze in less than 5 min. Those in the less encouraging group who did complete the maze ($n = 9$) also completed the maze in less than 5 min. A t test found no significant difference between those in the encouraging group ($n = 20$) and those in the less encouraging group who actually completed the maze ($n = 9$) in time to complete the maze, $t(1) = 0.38, p = .71$. The mean completion time for the encouraging group was $175.40 \text{s (SD = 61.42 s)}$, and the mean completion time for the less encouraging group members who completed the maze ($n = 9$) was $185 \text{s (SD = 68.75 s)}$.

Discussion

The present study was designed to examine the effect of praise in the form of encouraging statements compared to less encouraging statements during the completion of a difficult maze. As expected, the encouraging group completed the maze faster than the less encouraging group and was more likely to persist in completing the task. Phrases such as “You’re doing great,” “Just take your time,” and “Don’t get frustrated” seemed to provide a level of support and encouragement that increased participants’ motivation to complete the maze in a timely manner and also increased the likelihood of completing the task prior to the 5 min mark without giving up. These results reflected those of Koestner et al. (1987) who found that, when participants were praised for their hard work at completing puzzles, they spent more time on the puzzles and reported higher intrinsic motivation. By contrast, phrases such as “You are going too slow,” “You need to speed up,” “Just give up now” and “It is not worth it” appeared to create a more challenging atmosphere, led to a slower time of completion, lowered performance motivation, and for more than half of the participants, resulted in the desire to quit. These results supported those of previous studies, which found that encouragement might have a positive influence on performance for some tasks such as Anderson et al. (1988) who found that verbal encouragement improved athletic performance and Taffel, O’Leary, and Armel (1974) who showed that, even on difficult tasks, encouragement and praise increased problem solving. These results might have implications for various tasks in areas such as academics, industry, and even parenting. In the classroom, teachers can make use of encouraging language to inspire and challenge students, and encourage more attending behavior. Rushing students or rushing through a lesson may be discouraging and lead to poorer performance. In the field of athletics, coaches can use this research to better interact with their players to unite a team and get the best out of their players. Similar techniques can be used in the workplace.

Parents can employ such techniques to inspire perseverance and hard work.

The present study had some limitations that might limit the generalizability of the findings. The small convenience sample of college students might not generalize to an older population. The sample was also mostly White. Future research should not only increase sample size but also examine a broader, more diverse population. Expanding the sample to include a wider range of ages and races could expand the understanding of the role of praise. Additionally, the completion of the maze might not have provided participants with sufficient incentive to disregard the less than encouraging statements and thereby complete the maze. The task was not tied to any tangible rewards. Therefore, students might have had little motivation to perform with their best efforts. Finally, the type of task could also be broadened to be more relevant to participants. Although challenging, the maze task might not be sufficiently meaningful to participants. More meaningful tasks may influence motivation levels, which should then be examined in relation to type of task.

In summary, the results suggested that verbal praise during the process of completing a timed difficult task might have beneficial effects on time to complete the task as well as the likelihood of completing the task. The results suggested that simple encouraging statements may be sufficient to encourage persistence and task completion. Future research should examine the extent to which verbal
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APPENDIX A

Encouragement Script

Experimenter: Thank you again for agreeing to be a part of the study. The goal again is to see how fast you can complete this maze. You will have 5 min to complete this. I have done this maze a few times and it is not that difficult. Please begin when you are ready.

At 30 s: You are doing fine. Just take your time. You have plenty of time. Don’t get frustrated.

At 1 min: You are doing great. There are still 4 min left. Remember to erase your lines if you come to a dead end.

At 1 min 30 s: This maze took me some time to complete. Just be patient.

At 2 min: Most participants went over 4 min, so don’t feel bad. Just keep trying your hardest.

At 3 min: You have 2 min remaining. Keep breathing and relaxing. Do not panic. You are doing fine.

At 4 min: Only 1 min left. Give it your best shot. You cannot lose anything from this. Keep working at it.

APPENDIX B

Less Encouraging Script

Experimenter: Thank you again for agreeing to be a part of the study. The goal again is to see how fast you can complete this maze. You will have 5 min to complete this. I have done this maze a few times and it is hard. Trust me. This is one of the hardest mazes I could find online. Please begin when you are ready.

At 30 s: You are going too slow. You need to speed up. You are going much slower than the other people who have taken this. You’re a college student; this should be easy for you.

At 1 min: You are not even close. This maze is hard, but not that hard. Are you taking this experiment seriously?

At 2 min: Three min are left. Please hurry. You’re taking too long. You’re not going to make it. Just give up now. It is not worth it.

At 3 min: I am surprised you lasted this long. Again, you are not close to the finish. You have about 2 min left, which is not a lot of time. Good luck, I guess.

At 4 min: Only 1 min left. I sound like a broken record, but again you’re not close. Go as far as you can.