Despite the fact that the United States is considered to be a world power, when compared globally, American students rank 25th in math and 14th in reading (Jones, 2010). Clearly, even in our achievement-based society, our students are not up to par. As adults and educators, it is our responsibility to provide the best possible education for children and do all that we can to set them up for academic success. However, many commonly used practices may actually deter students from reaching their potential by affecting their motivation and mindset for learning. Teaching strategies intended to enhance learning can cause students to develop maladaptive self-theories about the nature of intelligence, ultimately hindering the learning process and contributing to gender and racial achievement gaps (Aronson & Steele, 2005).

Do some students quit at the slightest confrontation with difficulty, when others persevere despite all odds against their success? Students who give up easily may have extrinsic motivation, meaning they are driven by external forces or controls (Henderlong & Lepper, 2002). On the other hand, students who work through challenges may possess intrinsic motivation, which can be defined as engagement due to inner gratification. These students are motivated to master educational tasks for the value of learning itself, rather than for a high grade, accolades, or some other extrinsic reward. Intrinsic motivation has been shown to have many positive outcomes including persistence, creativity, and academic achievement (Henderlong & Lepper, 2002).

ABSTRACT. Research has suggested that receiving process praise (e.g., “You’re working hard”) increases children’s academic performance and that person praise (e.g., “You’re smart”) can have detrimental effects. However, few studies have examined how these findings relate to young adults. This experimental study examined the effects of type of praise (person vs. process) and gender1 on young adults’ task performance. Forty-eight undergraduates were introduced to hidden-item puzzles by the experimenter, who completed the first set with them. Participants were then given 1 min to work on a similar task. Upon completion, they were given either person praise or process praise from the experimenter. After receiving the praise, participants completed a final set of 6 puzzles, which served as the dependent measure. The results indicated that participants who received process praise (M = 8.08, SD = 3.04) significantly outperformed those who received person praise (M = 6.54, SD = 1.56), F(1, 44) = 5.00, p = .03, η² = .10. However, there was no significant effect for gender and no interaction between type of praise and gender. These findings suggested that process praise may be an effective method of improving academic performance in undergraduate students. Implications for classroom practice and the need for further research that considers longitudinal designs and larger sample sizes are discussed.

1We acknowledge that the term gender refers to the social role of an individual and that the term sex refers to the biological characteristics of an individual. To stay consistent with the relevant developmental and learning literature, gender was used in the text when referring to men and women.
Epistemic beliefs of intelligence have similarly been shown to influence academic achievement (Mueller & Dweck, 1998). Specifically, if an individual has an entity view of intelligence (i.e., fixed mindset), they believe that intelligence is an unchanging characteristic and are more likely to think effort plays little to no role in outcome. Students with fixed mindsets are more likely to develop a fear of failure (Kamins & Dweck, 1999; Mueller & Dweck, 1998), resulting in the avoidance of intellectual tasks, (Elliott & Dweck, 1988) and giving up in the face of difficulty (Dweck, 1999). The rationale is that effort is unnecessary if individuals are smart because everything should come easy, and if individuals are not smart, hard work cannot compensate for this deficiency.

On the other hand, students who believe that intelligence is adjustable have an incremental view of intelligence (i.e., growth mindset). Students with this growth mindset believe that intelligence is the result of hard work and the use of appropriate strategies. Rather than giving up in the face of failure or challenge, those with a growth mindset interpret setbacks as inevitable for learning to take place. Because they are not worried that exertion of effort is a reflection of lack of intelligence, they are not afraid to work hard, resulting in a superior performance compared to their fixed mindset peers (Dweck, 2007). To illustrate, Blackwell, Trzesniewski, and Dweck (2007) found that, even after 2 years, students with an incremental view of intelligence academically outperformed students with an entity view of intelligence.

It is clear that intrinsic motivation and the development of an incremental view of intelligence are critical to achievement, but where do these conceptions come from? One factor that is controllable and has been shown to be influential is the type of praise that students receive (Hattie, 2003; Hattie & Timperley, 2007). Verbal praise is often administered as a way to reinforce the performance or behavior of students. Although there may be positive intentions, some types of praise can have debilitating effects for the recipient, specifically depending on what the praise is directed toward. For example, person praise focuses on the individuals themselves, similar to an affirmation of self-worth such as, “Wow, you’re so smart.” Because it applauds the individual by applying a label or an unchangeable characteristic, person praise promotes an entity view of intelligence (Pomerantz & Kempner, 2013). Students are being rewarded, through praise, for their performance based on their ability. On the other hand, process praise focuses on the actions taken by the individual, especially their effort and problem solving strategies such as, “Great job! You’re working really hard.” Process praise reinforces the association between success and effort (or behavior) rather than a fixed ability, which cultivates a more adaptive, incremental view of intelligence.

Significant research has linked person praise with a fixed mindset and process praise with a growth mindset. Mueller and Dweck (1998) randomly assigned fifth graders to receive either person or process praise while they solved a set of progressive matrices. The researchers found that those who were given person praise had worse task performance, made more low-ability attributions, reported less task enjoyment, and exhibited less task persistence than children who were given process praise. Additionally, the children given person praise were more focused on performance goals and described intelligence as a fixed trait. This is in contrast to the children given process praise, who were more focused on learning goals and described intelligence as a fluid concept.

Type of praise not only affects immediate behaviors, beliefs, and emotions, but it has also been shown to have long-term consequences. Specifically, it affects how individuals deal with future difficulties and their willingness to apply effort to challenges that may come their way (Cimpian, Arce, Markman, & Dweck, 2007; Corpus & Lepper, 2007; Dweck, 1999; Henderlong & Lepper, 2002; Pomerantz & Kempner, 2013). For example, Kamins and Dweck (1999) showed that person praise is more likely to promote helpless responses to subsequent failures than process praise.

It is important to note that type of praise is not a clear-cut predictor of performance. The individual giving the praise, the recipient’s beliefs, and other contextual factors also need to be taken into account and can play a significant role in the strength of the effect (Maclellan, 2005). Brummelman and colleagues (2014) found that adults are more inclined to give person praise to children whom they perceive to have low self-esteem and give process praise to children whom they perceive to have high self-esteem. The gender of the individual receiving the praise might also be an important characteristic. Research exploring the effect of gender, however, is somewhat conflicting. Koestner, Zuckerman, and Koestner (1989) found that the performance of fifth- and sixth-grade boys was enhanced on a hidden-figure...
task when they were given person praise, whereas the performance of their female peers was enhanced by process praise. In their meta-analysis, Henderlong and Lepper (2002) reported the results of Henderlong’s unpublished doctoral dissertation work with upper-elementary students, indicating that process praise enhanced intrinsic motivation in all children, whereas person praise decreased intrinsic motivation in girls and did not significantly affect boys. Thus, the way in which gender interacts with praise to affect motivation and performance remains in question.

The majority of the research conducted on the effects of praise has focused on school-aged children, and little is known about whether the influences remain consistent in young adulthood. The few studies that have involved the undergraduate population have suggested that a similar effect exists. However the findings remain inconsistent. Hancock (2000) examined the impact of praise on the amount of time college students spent on homework. The results showed that those who were given verbal praise by their professors spent significantly more time on their homework than those that did not receive any praise. The students who received praise also outperformed their peers on the final exam. Nevertheless, the study did not differentiate between types of praise. Haimovitz and Corpus (2011) found that, among undergraduate students, process praise increased intrinsic motivation and perceived competence, whereas person praise decreased overall academic motivation. Koestner, Zuckerman, and Koestner (1987) asked undergraduate students to complete a set of hidden-item puzzles after receiving person praise, process praise, or no praise by the experimenters. The results showed that participants who received process praise spent significantly more time playing with hidden-item puzzles during a solitary free-choice period than those who received person praise or no praise at all. These studies suggested that praise, specifically process praise, may be an effective strategy for enhancing performance in undergraduates.

The present study expanded upon past findings to explore how gender and type of praise (person vs. process) affected young adults’ performance on a hidden-item puzzle task. To isolate the effect of praise on task performance and avoid the potential confounds of prior exposure and ability, the hidden-item puzzle task was chosen as the dependent measure. As a characteristic effort task, trying harder should improve performance on hidden-item puzzles (Baumeister, Hutton, & Cairns, 1990).

By investigating the role of gender, we hoped to shed more light on the gender gap in achievement and learn about contextual factors involved in praise. Consistent with the literature regarding the effect of type of praise on children, we hypothesized significantly higher task performance following process praise as compared to person praise. We expected to observe no gender difference in task performance, a finding that has been substantiated by past research (Butler & Nisan, 1986; Pintrich & de Groot, 1990). Finally, we also predicted an interaction between type of praise and gender, such that process praise would be significantly more effective for women than men. The results have important implications for the classroom environment and suggest pedagogical techniques to improve students’ learning.

Methods

Participants
This study involved 48 undergraduate students from a small private university in southern California. There were 24 (50%) women and 24 (50%) men enrolled in the study. Their ages ranged from 18 to 25 (M = 20.96, SD = 1.44). Most students were White (n = 34, 70.8%) and upper-middle class (n = 19, 39.6%), but a range of race/ethnicities and socioeconomic backgrounds were represented (34 White, 4 Asian, 4 Hispanic or Latino, 3 Black, 2 multi racial, 1 Middle Eastern). The sample of students included a range of student achievement levels and academic majors. Participants were recruited either from the introductory psychology participant pool or through informal advertisement of the study in on-campus dormitories. Six (12.5%) were from the introductory psychology pool, and received course credit for their participation. Otherwise, no incentives were offered to participants.

Measures

Demographic questionnaire. Participants were asked to self-report their birth date, the current date, their gender, race/ethnicity, annual household income, grade, major, and GPA on a questionnaire developed by the researchers.

Nina puzzles. Several related studies have used Nina puzzles as a measure of intrinsic motivation and task performance of undergraduates (e.g., Harackiewicz, 1979; Koestner et al., 1987). The puzzles are a compilation of 10 cartoon style...
hidden-item drawings by artist Al Hirschfeld. In each of the drawings, the word *Nina* is hidden anywhere from 2 to 40 times. To measure task performance, for each of the pictures, the participants are asked to circle the word *Nina* as many times as they can find it. A high number of *Nina’s* circled is indicative of higher performance.

**Design**

The present study employed an experimental, between-subjects design to examine the effect of different types of praise and participant gender on task performance. To eliminate the potential confound that type of praise may have different effects when elicited by the opposite gender, we gender-matched the experimenter and participant, such that a female experimenter tested a female participant, and vice versa. This design was also conducted by Baumeister et al. (1990). Participants were randomly assigned within gender to receive either person praise or process praise by a gender-matched experimenter. Person praise was operationalized as, “Great! You are really good at these!” Process praise was operationalized as, “Great! You are really working hard!” The outcome variable of task performance was operationalized as the score on the Nina puzzle task and assisted the participant with understanding. The participant was then given two additional puzzles and asked to find and circle as many *Nina’s* as possible over the course of 1 min. After the minute passed, in the *person praise* condition, the experimenter stated, “Great! You are really good at these!” In the *process praise* condition, the experimenter stated, “Great! You are working really hard!” For both conditions, the feedback was in reference to the participants’ performance solving the Nina puzzles thus far. Finally, for the dependent measure, the experimenter gave the participant a set of six Nina puzzles to solve, instructing him or her to find and circle as many Nina words as possible in 3 min. Once this was complete, the experimenter debriefed the participant as to the actual purpose of the study. The total number of *Nina’s* circled by the participant across the six puzzles was subsequently counted by the experimenter, representing the outcome variable of interest.

**Results**

A 2 x 2 Analysis of Variance was conducted to test the effects of two different types of praise and gender on task performance in undergraduate students. It was hypothesized that students given process praise would perform significantly better than students given person praise. We predicted no significant gender differences on task performance. Additionally, it was hypothesized that task performance of those in the different praise conditions would differ by gender.

The results confirmed the first hypothesis, yielding a main effect for type of praise, such that the average number of *Nina’s* found across the final set of puzzles was significantly higher for participants who received process praise (*M*= 8.08, *SD*= 3.04) than for those who received person praise (*M*= 6.54, *SD*= 1.56), *F*(1, 44) = 5.00, *p* = .03, *η²* = .10. Effect size of these differences indicated that 10% of the difference in the number of Nina’s the participants found was due to the type of praise they received. The second hypothesis related to gender effects was similarly confirmed because no significant difference in task performance between genders was found, *F*(1, 44) = 2.66, *p* = .11, *η²* = .06.

In addition to the main effects of type of praise and gender, this study also examined the interaction between type of praise and gender. It was hypothesized that both genders would perform similarly when receiving person praise, but that women would perform significantly better than men when receiving process praise. The means and standard deviations for task performance as a function of type of praise and gender are presented in Table 1. The interaction effect was found to be not significant, *F*(1, 44) = 0.30, *p* = .59, *η²* = .01, indicating that type of praise had a similar effect on men and women.

**Discussion**

In the present study, we explored the effect of person and process praise, as well as gender, on...
task performance in young adults. We hypothesized that individuals who received process praise would perform significantly better on the Nina puzzle task than those who had received person praise. Our research findings were consistent with this hypothesis. The results also confirmed our expectation of no differences between men and women on task performance. We also predicted that gender differences would contribute to the effect of praise. However, the data collected failed to support this hypothesis.

In the broadest sense, our results were consistent with Hancock (2000), suggesting that praise does influence the performance of young adults. However, our findings extended this work, suggesting that there is more to this concept of positive reinforcement with the effect of praise being significantly dependent upon the type of praise given.

Consistent with the many studies conducted with children (Corpus & Lepper, 2007; Kamins & Dweck, 1999; Mueller & Dweck, 1998), the superior effects of process praise, compared to person praise, appeared to continue along the developmental trajectory into young adulthood. Similarly, Haimovitz and Corpus (2011) found that, when studying undergraduates, process praise increased intrinsic motivation and perceived competence, whereas person praise decreased students' motivation. These results, along with our own findings, supported the basic tenets of Dweck and colleagues' theory of attribution, motivation, and achievement (Blackwell et al., 2007; Dweck, 2007; Henderlong & Lepper, 2002; Kamins & Dweck, 1999; Mueller & Dweck, 1998; Pomerantz & Kemper, 2013).

Undergraduate students in this study receiving process praise might have attributed their successes to the controllable factor that they were praised for, effort. It is likely that they acted in accordance with this belief by responding to challenge by increasing effort, resulting in superior task performance. In contrast, students receiving person praise might have attributed their successes or failures to a fixed variable or unchangeable trait. This might have resulted in less motivation to work hard because the person praised participants believed the outcome was out of their hands (Weiner, 2010).

The lack of interaction between type of praise and gender in our results conflicted with past findings that task performance and intrinsic motivation is significantly more enhanced for women after receiving process praise than for men (Koestner et al., 1987; 1989). In their work with undergraduates, Haimovitz and Corpus (2011) reported a marginally significant interaction of gender and type of praise in terms of intrinsic motivation, suggesting that process praise was especially beneficial for women. Our failure to replicate similar results may be explained by our small sample size or other dependent variables such as time spent on the task, which might be more sensitive to gender differences. We suggest that future research conduct a power analysis to explore whether a larger sample size might reveal a clearer pattern and clarify this discrepancy.

In the real world, individuals often receive praise from the opposite gender. Thus, more ecologically valid classroom research is needed to explore whether gender congruency between the individual offering the praise and the recipient of the praise influences the effect of type of praise. Further research should examine how contextual features such as the gender, age, and familiarity of the individual offering praise impact the effect of type of praise. If contextual features are found to mediate the effect of praise type, then this would have important implications for feedback procedures in the classroom.

The results of our study have been limited by the fact that the participants may not be representative of the larger population of undergraduate students. Although this study utilized an experimental design with random assignment, the participants were recruited from a very specific population (e.g., most were White, upper middle class students), representing little demographic diversity. Therefore, our findings can only be generalized to a similarly limited population. Future research should explore the possibility of a larger and more diverse sample of participants, which may display stronger trends with conclusions that can be more confidently applied across settings. Additionally, it is important to address the dependent measure used. Although hidden-item puzzle tasks, particularly Nina’s, have been used in the past as

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<td><strong>Means and Standard Deviations for Task Performance</strong></td>
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an indicator of task performance (Baumeister et al., 1990), a more comprehensive measure, clearly indicative of academic performance is recommended as a way to capture the variable of interest.

Because the experimenters were not naive to the study’s hypotheses, it is possible that the process praise was delivered more enthusiastically or believably than the person praise. However, to control for this as much as possible, and to avoid any potentially influential spontaneous conversation, the experimenters followed a script. Future research should involve blind experimenters to reduce bias.

Perhaps the most significant limitation was the single session intervention. Although our procedure did reveal that just a few minor words have the power to influence participants’ performance, we measured the effect immediately after the feedback was provided. Would students who were praised for their effort outperform their counterparts who were praised for their skill over a long-term period? How does this effect hold up across domains (e.g., classroom, homework)? Knowing whether performance is affected by type of praise, and also how strongly this effect pervades educational outcomes, would be valuable for research on achievement motivation and contribute to educators’ ability to provide the most optimal learning environment for students.

Despite these significant limitations, this study provided important insight into a population that has been, for the most part, omitted from the large body of research on the effects of praise. Because our results were generally consistent with the findings on children, it is likely that the praise young adults receive everyday is shaping their performance in a variety of areas. Specifically, process praise contributes to a mastery learning orientation (Kamins & Dweck, 1999; Pomerantz & Kemper, 2013), whereas person praise not only harms long-term academic performance, but is also associated with shame, lower self-esteem, and lower intrinsic motivation (Brummelman et al., 2014; Heyman, 2008). If these malleable factors play such a significant role in achievement, then educators do students a disservice by offering them feedback based on fixed characteristics, or those that could be perceived as fixed. Rather, our findings suggested that an effective way to maximize performance would be to extend process praise to students immediately before they begin a task. Ultimately, educators should be mindful of the underlying messages they are communicating when offering praise to their students.

References


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