

Appendix 3: What Pygmalion effect research tells managers

A special case of a *self-fulfilling prophecy*,ⁱ the Pygmalion effect suggests that the expectations of a powerful “other” (boss, parent or teacher), *even if they are inaccurate*, can influence the behavior of the weaker individual (subordinate, child or student). The process starts with the development of expectations about a target person. These expectations are communicated, more or less consciously, to the target person. The target person notices and internalizes these expectations and starts to behave as expected.

This effect was first demonstrated empirically in the field of education where a simple manipulation of teacher expectations was shown to influence pupil achievement.ⁱⁱ Experimenters led teachers to believe that some pupils, labeled *late bloomers*, would show dramatic increases in achievement by the end of the year. Although the late bloomers were chosen at random, they *did* show greater increases in IQ in comparison with control pupils by the end of the year. This pioneering study drew considerable attention from researchers in education and social psychology, resulting in numerous studies.ⁱⁱⁱ

The potential implications for management were also quickly recognized, with the *Harvard Business Review* publishing a classic article on the influence of managers’ expectations on employees, especially regarding new recruits.^{iv} The article in fact cited an earlier longitudinal study that had the hallmarks of a self-fulfilling prophecy, though not actually labeled as such.^v Based on research at AT&T, the study had found a strong relationship between the level of performance that the company had initially expected of new hires and evaluations of their contributions to the company during the next five years.

The first controlled field experiment on the Pygmalion effect in work settings was conducted among disadvantaged employees on job training programs.^{vi} Those labeled “high aptitude personnel” (though selected at random) achieved more on objective tests, were rated higher by their supervisors and peers, and had lower dropout rates than the control trainees.

The realization that the most powerful experiments were those involving newly established relationships led to some of the best designed studies of the Pygmalion effect. Researchers working with the Israel Defense Forces, performed several experiments which showed that:

- ◆ the Pygmalion effect works with adults and is generalizable across cultures;^{vii}
- ◆ similar effects result from manipulating instructor expectations or raising subordinate self-expectations directly – which suggests that instructors communicate expectations very clearly;^{viii}
- ◆ the effect does not rely on internal comparisons but can work for a whole group;^{ix} and that
- ◆ the effect also works in the negative,^x confirming early speculation that pessimistic expectations were more common and had a more powerful effect on behavior than optimistic expectations.^{xi}

High expectations were even shown to have physiological repercussions. In a fascinating study of “performance at sea”, naval cadets preparing to embark on their first cruise, were split into two groups. Those in the first group were told that their responses to earlier questionnaires suggested that they were unlikely to experience seasickness and that, if they did, it was unlikely to impair their performance. Those in the other group simply received non-committal information. At the end of the five-day cruise, cadets in the first group reported less seasickness and were rated as better performers than the second group by training officers who were unaware of the manipulation.^{xii}

In other non-educational settings, nurses and aides in a nursing home were led to believe that some patients would show more rapid rehabilitation than others. As it turned out, those patients actually did make quicker progress, suffering from fewer depressive tendencies and being re-admitted less often than average expectancy patients.^{xiii}

The punch line of Pygmalion effect research is hence as follows: The performance of the target (subordinate, child or pupil) tends to adjust up or down to the powerful other’s (boss’s, parent’s or teacher’s) expectations.

On the basis of these robust cumulative findings coming from multiple settings, there have been numerous calls to harness the Pygmalion effect as a management tool.^{xiv}

Antecedents and moderators

Most of the early research into the Pygmalion effect has little to say about where managers’ high or low expectations originate and under what conditions self-fulfilling prophecies are more likely. The studies invariably involved manipulating expectations, so the source of those expectations was not even a question. While some of these early experimental studies showed powerful effects, they only showed that perceiver expectations *could* lead to self-fulfilling prophecies. They did not establish that perceivers actually developed false expectations naturally and that these would lead to self-fulfilling prophecies.

So, there has been very little research on manager expectations as a dependent variable, at least not in the field of self-fulfilling prophecies. A rare exception is a series of studies examining the job interview process.^{xv} One particular study focused on candidates hoping to be recruited as account executives by an international financial service corporation. Based on CV information and a personal statement of motivation, the interviewers rated the likely “fit” of the candidate and whether they expected to recommend the candidate for hire. After the interview, they were asked to what extent they thought “the candidate’s performance in the interview was indicative of his/her true qualifications for the job?” As anticipated, interviewers evaluated those they expected to do well much more favorably and were much more inclined to attribute their good performance to internal factors compared to candidates they had not expected to do well. Moreover, these interviewer feelings were communicative: candidates that interviewers expected to do well tended to be more positive in their post-interview evaluation of the job, the interviewer and the organization. The study lent strong support to the idea that pre-interview impressions of candidates tend to be self-fulfilling.^{xvi}

Recent research has tended to focus more on the characteristics of “boss” and “subordinate” or situational factors that might moderate the Pygmalion effect – and has set out in search of the “powerful self-fulfilling prophecy”.^{xvii} Initial findings from the field of education suggest that expectancy effects are considerably stronger among students from stigmatized groups and that teacher perceptions predict achievement changes more strongly among low achievers than among high achievers.^{xviii} A more surprising fact to emerge from the latest research is the longevity of teacher perceptions which continue to predict student achievement for up to seven years. As the researchers put it: “When a perceivers’ false beliefs continue to influence a target with whom the perceiver has had no contact 6 years later, even if the effect size is only .2, its impact may be considered dramatic”.^{xix}

Mediators: Communicating expectations

The performance consequences of Pygmalion research are of obvious interest to managers. Unfortunately, less effort has gone into investigating the mediators, that is, the actual behaviors on the part of the authority figure that serve to communicate high or low expectations. There has been little attention to what the magic involves.

One framework has been proposed, based on observation of teacher-pupil interactions.^{xx} It suggests that teachers explicitly and implicitly convey their high or low expectations via four factors: climate, feedback, input and output. It has been suggested that the same framework could be used to categorize boss behavior towards subordinates.^{xxi} While the framework seems to capture some of the dimensions through which expectations are conveyed, this line of research provides limited empirical evidence of what the boss really does differently.

Summary

Although this body of research is clearly geared toward improving performance, it nevertheless has several shortcomings in terms of implementation, particularly in work settings. Evidence of that gap can be seen in a series of recent training interventions – with various populations including bank managers, factory supervisors and summer camp counselors – designed to produce “Pygmalion leaders”. Every single one of the seven intervention attempts failed.^{xxii}

In fact, perhaps the only known example of a successful intervention concerned a group of 12 sailors with a history of low performance working on a US combat ship. Known as “dirtbags” by their fellow sailors, these under-performers were targeted for remedial treatment. Follow-up measures showed significant improvements in overall performance and discipline, far in excess of a control group of comparably low performers on four other ships.

An insightful critique of Pygmalion theory uses this very case to explore better ways of translating the theory into action.^{xxiii} The key feature identified is the fact that subordinates *as well as* supervisors were targeted for training. The supervisor program focused not just on raising negative expectations but also on enhancing behavioral skills, including methods for rewarding desired subordinate actions. The subordinate program included personal growth/self-improvement workshops and opportunities to deal with issues raised by the sailors themselves. Overall, the program focused more on actions rather than on expectations *per se*.

Building on that analysis, the critique highlights two further features of successful Pygmalion studies that are difficult to reproduce in the workplace:

- ◆ First is the deceptive aspect. In Pygmalion experiments, researchers essentially lie to the leader about the quality of the subordinates. There are ways of replicating that effect in the workplace, via the boss's boss or the HR function, but these are both unethical and probably unsustainable. This highlights a fascinating paradox: why should it be so easy to trigger more effective behaviors from leaders by deceptive means and yet so hard to instill similar leadership behaviors through explicit training?
- ◆ Second, the history of the relationship matters. Pygmalion effects work best (perhaps only) with people who have not met. A review of 18 Pygmalion studies found that the longer the two parties had been in contact prior to the experiment, the weaker the performance improvement. Indeed, beyond two weeks no study showed statistically significant results.^{xxiv} This result points to two possible explanations: Bosses' expectations cannot be easily manipulated once the boss has had a chance to form an independent opinion, and/or the in the first few days of interactions subordinates themselves form an opinion about the boss (and about how the boss views them) and have a hard time revising it.

ⁱ Merton, R. K. (1948) "The self-fulfilling prophecy", *Antioch Review*, 8: 193-210.

ⁱⁱ Rosenthal, R. & Jacobson, L. (1968) *Pygmalion in the Classroom: Teacher expectations and pupils' intellectual development* (New York: Holt, Rinehart & Winston).

ⁱⁱⁱ For early reviews of the literature see Brophy, J. E. (1983) "Research on the self-fulfilling prophecy and teacher expectations", *Journal of Educational Psychology*, 75: 631-661; see also Jussim, L. (1986) "Self-fulfilling prophecies: A theoretical and integrative review", *Psychological Review*, 93: 429-445.

^{iv} Livingston, J. S. (1969) "Pygmalion in management", *Harvard Business Review*, 47(4), 81-89.

^v Berlew, D. E. & Hall, D. T. (1966) "The socialization of managers: Effects of expectation on performance", *Administrative Science Quarterly*, 11: 207-223.

^{vi} King, A. S. (1971) "Self-fulfilling prophecies in training the hard-core: Supervisors' expectations and the underprivileged workers' performance", *Social Science Quarterly*, 52: 369-378.

^{vii} Eden, D. and Shani, A. B. (1982) "Pygmalion goes to boot camp," *Journal of Applied Psychology*, 67 (194-199).

^{viii} Eden, D. & Ravid, G. (1982) "Pygmalion vs. self-expectancy: Effects of instructor- and self-expectancy on trainee performance", *Organizational Behavior and Human Performance*, 30: 351-364.

^{ix} Eden, D. (1990) "Pygmalion controlling interpersonal contrast effects: Whole group gain from raising expectations", *Journal of Applied Psychology*, 75: 394-398.

^x See Oz, S. & Eden, D. (1994) "Restraining the Golem: Boosting performance by changing the interpretation of low scores", *Journal of Applied Psychology*, 79: 744-754. The researchers were building on the earlier work in classrooms by Babad, E. Y., Inbar, J., & Rosenthal, R. (1982) "Teachers' judgment of students' potential as a function of teachers' susceptibility to biasing information", *Journal of Personality and Social Psychology*, 42: 541-547.

^{xi} Livingston, J. S. (1969) "Pygmalion in management", *Harvard Business Review*, 47(4), 81-89.

^{xii} Eden, D., and Zuk, Y. (1995) "Seasickness as a self-fulfilling prophecy: Raising self-efficacy to boost performance at sea", *Journal of Applied Psychology*, 80: 628-635.

^{xiii} Learman, L. A., Avorn, J., Everitt, D. E. and Rosenthal, R. (1990) "Pygmalion in the nursing home: The effects of caregiver expectations on patient outcomes", *Journal of the American Geriatrics Society*, 38: 797-803.

^{xiv} Several authors have made this case, but it has been argued most eloquently by Eden in various publications, notably in Eden, D. (1984) "Self-fulfilling prophecy as a management tool: Harnessing Pygmalion", *Academy of Management Review*, 9: 64-73; Eden, D. (1990) *Pygmalion in Management: Productivity as a self-fulfilling prophecy* (Lexington, MA: Lexington Books); and Eden, D. (1992)

“Leadership and expectations: Pygmalion effects and other self-fulfilling prophecies in organizations”, *Leadership Quarterly*, 3: 271-305.

^{xv} For example, Dipboye, R. L. (1982) “Self-fulfilling prophecies in the selection-recruitment interview”, *Academy of Management Review*, 7: 579-586; see also Dipboye, R. L., Stramler, C., & Fontenelle, G. A. (1984) “The effects of the application on recall of information from the interview”, *Academy of Management Journal*, 27: 561-575.

^{xvi} Phillips, A. P., & Dipboye, R. L. (1989) “Correlational tests of predictions from a process model of the interview”, *Journal of Applied Psychology*, 74: 41-52.

^{xvii} Jussim, L., Eccles, J., & Madon, S. (1996) “Social perception, social stereotypes, and teacher expectations: Accuracy and the quest for the powerful self-fulfilling prophecy”. In M. P. Zanna (ed.) *Advances in Experimental Social Psychology* (pp. 281-388). San Diego, CA: Academic Press.

^{xviii} Madon, S., Jussim, L., & Eccles, J. (1997) “In search of the powerful self-fulfilling prophecy”, *Journal of Personality and Social Psychology*, 72: 791-809.

^{xix} Smith, A. E., Jussim, L., & Eccles, J. (1999) “Do self-fulfilling prophecies accumulate, dissipate, or remain stable over time?” *Journal of Personality and Social Psychology*, 77: 548-565, 563.

^{xx} Rosenthal, R. (1973) *On the Social Psychology of the Self-fulfilling Prophecy: Further evidence for Pygmalion effects and their mediating mechanisms* (New York: MSS Modular Publications) Module 53.

^{xxi} Eden, D. (1990b) *Pygmalion in Management: Productivity as a self-fulfilling prophecy* (Lexington, MA: Lexington Books).

^{xxii} See in particular, Eden, D., Geller, D., Gewirtz, A., Gordon-Terner, *et. al.* R. (2000) “Implanting Pygmalion leadership style through workshop training: Seven field experiments”, *Leadership Quarterly*, 11: 171-210.

^{xxiii} White, S. S., and Locke, E. A. (2000) “Problems with the Pygmalion effect and some proposed solutions”, *Leadership Quarterly*, 11: 389-415.

^{xxiv} Raudenbush, S. W. (1984) “Magnitude of teacher expectancy effects on pupil IQ as a function of the credibility of expectancy induction: A synthesis of findings from 18 experiments”, *Journal of Educational Psychology*, 76: 85-97.