Translational Research in Psychology: An Instructive Case

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Abstract

A thoroughly articulated case[1] study of behavioral shaping of an 11 year old boy by his parent is presented to initiate the argument for translating research findings in Psychology beyond the clinic to non-professional users such as parents. Appropriateness of choice of clinical methods to be adapted for this use is noted. The benefits and safety of parents' use of these techniques is argued from example of the type which must precede considerations of field research to provide empirical data needed at the next step in consideration of this process. The translation can be atheoretical and purely procedural. Benefits in child adjustment and development are indicated, as well as improvement in parent-child relationship.

Key Words: Shaping, Behavioral case study, Translational psychological research, Parent-child relationship, Adapted clinical practice, Childhood adjustment, Child development

This position paper advances the argument that established findings in psychology, particularly research which has already been translated to clinical practice, should be further translated for use by members of the general public. One group with very pressing needs for the simple, clear and highly effective therapeutic methods drawn from the practice of psychology is parents. The best of parents wish to enhance their children's adjustment, facilitate developmental changes, manage threats to their mental health before the matters become the focus of clinical concern, and know when a professional clinical intervention is indicated. It is argued that their use of selected psychological techniques would be useful to these ends.

Ordinarily a parent acting in any way in the capacity of therapist is not considered a good idea on very reasonable grounds: it may involve adopting dual roles and undesirable manipulation, which can negatively affect the type and quality of the parent-child relationship. However, when therapist practices and good parenting intersect, use of therapist techniques is argued to be desirable.

For the purposes of illustrating the potential usefulness and harmlessness of appropriately chosen psychological tools, a therapeutic method for demonstration has been chosen from among the well researched behavioral approaches. Behavioral techniques target the goal of change in behavior, without using cognitive and emotional concomitants instrumentally (Skinner, 1938, 2002). These techniques have other qualities that make them attractive for use by persons outside the cadres of trained mental health workers and educators.

Chief among these is that control is left in the hands of the person whose behavior is to be changed, in this case a child. The child is always free to accept or reject the implied contract that leads to a reinforcer. Further, if a child changes behavior in a maladaptive way because of parent error in motive, intent, or procedure, the behavior will quickly extinguish outside that environment where the behavior is no longer supported. Of the many techniques developed by behaviorists and solidly supported by decades of research and practice, one stands out as having brought surprising insight even to its developer.

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[1] The case is fictional and meant for illustration, created from an aggregation of features of many cases addressed by the authors.

Originally called successive approximations (Skinner, 1938), it was later discovered by Skinner and his associates in 1943 to be far more rapidly effective when done *by hand* rather than by environmental controls. This substantial effectiveness improvement suggested far greater insights to the researcher (Skinner, 1979, 1983). The event and its sequelae are well chronicled elsewhere (Peterson 2004). Skinner retold the story repeatedly, and it is believed that it was after that event in 1943 that he renamed the technique to *shaping*. In the half century and more since then the technique has progressively translated to the health and education professional communities where it has found widespread application, even becoming centrally important in certain addiction treatments, e.g. Preston et al. (2001), and beyond these to other professional groups, e.g. business (Rothschild & Gaidis, 1981).

Shaping, then, seems a reasonable choice as an exemplar. Providing an exemplar that is incontrovertibly useful is the very nub of the instant argument. Utility, harmlessness, and benefits that exceed costs must first be demonstrated as potentially achievable in a model before that model can be tested in field research. For model, the following case is presented with clear and transparent use of shaping to achieve a change in the behavior of a child that is ardently desired by both parents and the child involved. Safety, success, learning, improved adjustment, and strengthened parent-child relationship all flow from the application of this behavioral technique, although the only goal was safety.

1. Case: James, age 11[2]

James was an 11 year old boy attending a local public school, and, to the distress of his parents, spending his time with a group of 13 year olds instead of children his own age and in his own grade. The parents' distress was increased by their hearing of school infractions, including use of marijuana and alcohol by these same older friends of their son. The parents' discussions and requests not to associate with these children fell, predictably, on deaf ears. When the parents prohibited his being with them, he concealed it a little, but continued as before.

James's being accepted in the group of eighth graders gave him a cachet among his classmates which he enjoyed, though it was far less than positive and quite thin: he knew that while he seemed to others to be accepted by these older, more aggressive and independent children, he experienced himself as barely tolerated, used for errands, as the butt of jokes, and continually challenged to do things he might otherwise not have been inclined to do.

No matter. The situation was not perfect, but satisfactory, and he enjoyed the admiration of his classmates and the cautious handling his teachers and school officials accorded him. He was not unnoticed.

One afternoon after school James and his friends walked off into a wooded area south of the school to enjoy some early teenaged ribaldry, augmented by some liquor one of the boys had taken from his home. The boys' destination was an abandoned cabin they had found in the woods and used as a type of secret clubhouse. This was the first time James was included on a trip to this destination.

The boys' path was a short-cut well away from any roads, paved or otherwise, and at one point required climbing an outcropping of rock which was very near vertical and rose more than 40 feet. The boys, apart from James, came here frequently, and the climb had been long since mastered. And, apart from James, they made quick work of the obstacle, climbing easily to the top and continuing on toward the cabin, which was still some distance off. For James, the rock climb was a struggle, and the places with the best handholds and footholds were unknown to him. After more than 20 minutes of struggling, he found himself about 30 feet off the ground, under an overhang of rock, with shallow hand and footholds, and unable to proceed in any direction, even back down, without fear of falling. His calls to his friends went unheard, and they disregarded his absence when they noticed it: he had probably run off home.

The next several hours, while it grew dark and the temperature dropped, were spent attempting to complete the climb, get back down, or even improve his hold. Finally, exhausted, he just hung on, wondering if he should just let himself fall, how badly he might be injured, and whether, injured, he could get home. Or, if not, when he would be found.

At this point, James had long since missed dinner with his parents, and they had been calling school officials and the parents of James' companions for information. One of the boys was at home, and, although he did not know James' whereabouts, he reluctantly disclosed the route the boys took to their cabin.

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[2] The first author heard or read a similar tale years ago in another context which was modified and used as a basis for this model. He has not been successful in finding the original author, whom he would gladly credit for his contribution.

The parents followed the path by car so far as possible, then continued on foot, lighting their way with flashlights and calling out as they went. When James finally heard them and called out, his parents rushed to the spot and appreciated his predicament.

The parents, after searching carefully with their flashlights, saw that the steepness of the rock and the poor handholds prevented their climbing up after him and assisting him down. Nor was he reachable from above, because of the overhang. They had, naturally, made emergency phone calls and were told that the Fire Department would bring equipment, but it would take hours to get experienced rock climbers, equipment and ladders on site, since everything had to be carried through the woods by hand. It did not seem like the increasingly frantic boy would last that long without falling.

At this point James' situation clearly parallels that of a patient seeking psychotherapy. James experiences himself as in an untenable and worsening position, and as having tried every possible solution he can construe, to no avail. What he sees as needing to be done he feels he cannot do. He experiences those around him as unable to help. It is often at this point that a patient secures the assistance of a therapist, in the hope that that will bring the expertise needed to ameliorate the patient's condition.

As for James, his parents avoided a number of poor alternatives (e.g., "why did you go up there?", "You went up, so come down the same way.", "Pull yourself together and finish the climb like a man.", "Now you see where your behavior leads…") and concentrated their flashlights on the rock around him. They pointed out several footholds he could reach to begin the descent. Each time the boy struggled to see the foothold the flashlights illuminated, he made some effort to move, then panicked and held the original position. Seeing that this approach was unavailing, the parents searched very much nearer to James. Spotting a small outcropping, the father pointed out to James that he would have a very much more secure left handhold by moving his hand to the outcropping only 2 inches to his left and about 3 inches lower.

James accomplished this small move easily, and felt some relief at the more secure hold. By this time his mother had found a slightly better ledge a scant 2 inches below his left foot. James took the small move cautiously, and immediately experienced the improvement. And so they proceeded, by inches. Some moves James was unable to do; each time this occurred, the parents found a closer spot, each time slightly lower. Almost 90 minutes later James happily jumped the last three feet to the ground and the emergency calls were canceled. James experienced relief, but an enormous sense of accomplishment as well, and felt he had learned a new way to manage rock climbing. The parents were amply rewarded by their son's safety and a glimmer of hope that the evening's events might lay the groundwork for a much better relationship with their son.

Therapists find it useful to manage their patients' difficulties in a parallel way, by finding steps small and easy enough for the patient to achieve, moving them always toward the mutually agreed upon goal. If a step is too difficult for the patient to manage, or if the patient does not see it as leading to the goal, the therapist drops it and seeks another step which is easier, or more apparently moves in the patient's desired direction. The patient experiences the final result as the product of his/her own effort, amplified by feelings of both relief and achievement. The therapist has, of course, been helpful, and is paid for his/her work as any consultant. But the goal, the effort and the success belong to the patient.

"I did it!" were James' words when on the ground. To which his father replied, "Yes you did. I admire your strength and endurance." In doing this he underlined the positive and constructive aspects, and again avoided less productive alternatives, e.g. "Now you see what you are doing to your mother and me, etc.".

A few final notes on this tool of psychotherapy. First, this method is used when more rapid methods have failed and quicker progress is not available. Second, when progress stalls, begin by reducing the size of the steps.

Each step must not only be physically possible for the patient, it must be intellectually and emotionally possible in the patient's current situation. Third, the parent must make certain that the child experiences reinforcement after every step. While this is often automatic, as in James' case, it is helpful if the reinforcement is amplified by the parent's verbal approbation and encouragement. Either positive or negative reinforcement will be effective in establishing and generalizing the new behavior, and both are present in this case.

Typical negative reinforcers often include reduced risk, lowered anxiety or other dysphoric emotion or proprioception, as here.

Positive reinforcers include a sense of accomplishment or progress, increased safety, and should definitely be augmented by reinforcers from extrinsic sources in the supportive words of parents and others, again, as here.

The fourth note leads us initially to an ancillary consideration: Must the child endorse and adopt the goal? However advantageous it may be to help a patient to his/her own goal, the effectiveness of the procedure does not require it. Reinforcers can be extrinsically attached to small steps to make the steps attractive to the child, who can be reliably expected to engage the steps presented this way. This will lead the child to the parent's goal for him/her: if the goal is useful for the child, it will then become self sustaining; if not, the achievement will extinguish after the extrinsic reinforcers cease. That said, the fourth note considers the goal. Where possible, progress is more efficient when parent and child agree on the goal beforehand.

While the method described here is clear and effective, it requires some resourcefulness on the part of the parent who must be able not only to find a sequence of very small steps that lead to a goal, but replace steps with smaller ones as needed

2. Case: Anne, age 15

An alternative case study was considered by the authors to illustrate the usefulness of the behavioral shaping technique for parents. That patient is a 15-year-old female who complains of being 12 pounds overweight. With her parents' permission she has tried many popular diets, lost weight quickly to her target level, but regained it in a few months. Her physician, who agrees that the weight loss is appropriate, has made recommendations for diet and exercise change which she rejects, saying they are too onerous and make it impossible to enjoy herself, especially with her friends. In this case, the most readily available reinforcement for the steps she will take is based in the description of the step and the story surrounding it, which builds in attractiveness in the way advertising builds attractiveness for products. Ultimately the stable weight reduction will be self reinforcing to the girl in the way she feels and looks, but that larger and more general reinforcement is only available when the goal is attained or nearly attained. Because of the additional complications of the cognitive control of the reinforcers themselves, the development and course of this case is left to the reader.

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