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Behavioral recording

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Teaching learning material

2024

BEHAVIORAL RECORDING

Skinner's multiple contributions included developing and using reliable, accurate behavior measures to understand and predict behavior (Dowdy et al., 2023; Morris et al., 2005). A behavior record is a systematic collection process for observing an organism's behavior within a specified time limit (APA, 2018). These records allow us to keep track, in a physical format, of when a behavior appears, what situations trigger it, what consequences it has and what factors support it.

Furthermore, the records enable direct, accurate recording of behaviors as they occur in the person's natural environment, which facilitates the acquisition of a precise view of recorded behaviors. They can be used to assess the effects of intervention, guide clinical decision-making and prevent treatment errors (Cooper et al., 2007). The records allow the generalization of several behaviors to certain groups of people and make it possible to record complex behaviors in populations with difficulties or mental disorders (such as immigrants and people with intellectual disabilities or speech disorders) (e.g., Cooper et al., 2020).

However, this type of recording may have some disadvantages, such as the fact that the reliability of the recorded data depends on a clear definition of the behavior to be observed and on the skills and proper training of the person who records them. Additionally, the recording process may require a significant amount of time, involve observer bias and need a considerable level of observer preparation in the environment of interest.

Several methods are available, which offer choices based on the assessment goals, the characteristics of the target behavior and the suitability of the technique for the individual's particularity (Epp et al., 2012). Behavioral evaluation methods may be conducted by a therapist, other individuals in the client's life (parents, teachers or other caregivers), or the person themselves (self-report/self-monitoring) (Epp et al., 2012).

Behavioral recording is a well-established technique for adhering to behavioral assessment standards, given its low degree of directivity and minimal inference. Its primary advantage is its ability to provide real-time insights into the occurrence of target behaviors, including how, when and where they manifest. As a result, it provides accurate, reliable information that can be used to assess the determinants and parameters of the issue (Crespo López & Larroy García, 1998). However, there are several

drawbacks, including the need for multiple observers, high costs and potential reactivity.

- **Considerations for the development and use of behavior records**

Before a behavior is observed, the target behavior must be selected and well-defined, considering that it is socially relevant and important to the individual whose behavior is observed (Dowdy et al., 2023). Behaviors should be chosen considering that they provide access to new reinforcers, contingencies or environments and are socially valid and widely applicable in different environments/contexts, people and behaviors. We should observe that these behaviors can compete with and replace inappropriate behaviors and that the change in behavior has a considerable effect on the individual and their life context (Bosch & Fuqua, 2001; Dowdy et al., 2023).

- **Target behavior definition**

A good definition should be objective (observable behavioral characteristics), clear (readable and unambiguous) and complete (outlining the boundaries of what will be included and what will be excluded) (Dowdy et al., 2023). In addition, a valid definition of target behavior enables observers to capture all aspects of the behavior of interest and no other (Cooper et al., 2020).

- **Types of definitions** (Cooper et al., 2020)

1. Topography-based definitions: these are based on all response shapes/forms that in most cases produce relevant outcomes in the natural environment.

2. Function-based definitions: these are based on function or its common effect on the environment.

- **Recording methods**

There are a variety of behavioral multi-informants: hetero-recording (parents, teachers and caregivers) and self-recording (patients themselves). A range of evaluation methods exist to determine which target behavior(s) should be recorded and therefore changed (e.g., Cooper et al., 2020):

a) *Narrative recording*: this is often carried out as a source of complementary information during the assessment process. It requires recording any behavior of interest (*how* events are organized). There is a lot of flexibility in terms of how descriptive or inferential it is and how little quantification is used (Epp et al.,

2012).

b) *Interval recording/time sampling*: these are records of behavior that occur with moderate frequency and do not have a clear beginning or end (e.g., walking, listening or playing).

c) *Behavioral observation:* this involves direct and repeated observations of the temporal sequence of the patient's behavior in a specific natural environment (e.g., anecdotal observation) (Cooper et al., 2020). There are three kinds of measures, depending on the target behavior to be measured:

   – Repeatability (countability) recording: count how many times a behavior occurs repeatedly during a specific period of time. Measure: a simple tally of the number of occurrences of a behavior (minutes, hours, days or a week) and rate (number of answers per unit of time).

   – Temporal recording: how long a behavior occurs during a given period of time. Measure: duration (amount of time elapsed between the start and end of a response).

   – Temporal locus: every instance of behavior occurs at a given moment in time relative to other events (e.g., if the behavior of interest was "being attentive" in a classroom, a time period of 10 minutes could be selected, during which it would be recorded whether the child was focused on the task during 40-second intervals). Measure: latency (time passed between the appearance of a stimulus and a later response).

d) *Questionnaires* (Checklist and rating scales): observation method focused on specific behaviors that have already occurred (e.g., classroom routines [FACTS-Part-A, The Functional Assessment Checklist for Teachers and Staff, March et al., 2000], phobias [BAT, Behavioral Avoidance Test, Muris et al., 1998]).

HETERO-RECORDING

When the recording is carried out by a person other than the patient, we refer to it as a *hetero-recording*. The steps are:

1. Define clearly and objectively the behavior(s) you want to see, and as close as possible to what you expect to record.

2. Find a "pool" of eligible target behaviors and decide which behaviors are considered a priority for assessment. Answer questions, for instance, how long has the problem or skill lasted?

3. Choose the type of behavioral record that you consider most suitable for monitoring behavior.

4. Decide when you are going to observe the behavior across activities and topics, several situations or just one.

5. Decide who will record the behavior, whether it is a family member, a teacher or a caregiver who works alongside the therapist. Train the observers if necessary.

6. Decide how long each of the observations will last (time range) and how often they should be recorded.

7. Record target behaviors.

8. Calculate the results depending on the type of record used: a) repeatability/countability recording (frequency): average number of occurrences per minute, hour or day; b) temporal recording (duration): percentage of total observation time in which the behavior occurred; and c) temporal locus (latency): percentage of intervals in which the behavior occurred.

- **Instructions**

The therapist instructs the co-therapist (e.g., family members, teachers or caregivers) to faithfully record all the information that will be useful to obtain the most reliable record possible of the target behavior, trying to avoid as much as possible any type of bias. The aim of the task is explained in advance, doubts are clarified, and training is given on what, when and how to mark. A practice exercise is carried out until the necessary skill is acquired.

SELF-RECORDING

Self-recording is an information gathering tool that falls within the framework of behavioral observation techniques, in this case, self-observation (by the patient themselves). Self-observation is a technique for direct, objective assessment of behavior.

The advantages of this technique are that it allows precise and valid information to be obtained, avoids interpretation problems;, has a low cost-effectiveness ratio and promotes motivation. One of its disadvantages is reactivity.

The steps are the same as in the recording by external observers:

1. Definition of the target behavior
2. Choice of measurement method
3. Choice and development of the recording sheet
4. Subject training
5. Self-observation and recording
6. Graphical representation of the data

- **Design of the procedure**

The design of the procedure depends on the purpose (Crespo López & Larroy García, 1998):

a) **Information collection**: maximizing the accuracy of the self-record
   To achieve this objective, it is essential to ensure that:
   - The behavior and the recording are followed.
   - The person is trained.
   - The person should be positively reinforced when the recording is right.
   - The recording sheet should not be complicated.
   - Fatigue should be checked.
   - Competitive tasks should be erased while recording.
   - An independent observer is recommended.
   - There is more accuracy in motor behaviors and positively valued behaviors.

b) **Therapeutic effect**: maximizing reactivity
   To achieve this objective, it is essential to ensure that:
   - The recording is done before the behavior occurs.
   - The recording is focused on only one behavior.
   - The recording sheets are in visible locations.
   - The recording sheets should be visually appealing.
   - The positive aspects of the behavior are the focus of the recording.
   - There is more reactivity when the person is motivated for change, with non-verbal behaviors, or when the recording is focused on discriminative stimuli related to the behavior.

References

American Psychological Association. (2018). Behavior record. In *APA dictionary*. Retrieved 7 April 2024, from https://dictionary.apa.org/behavior-observation.

Bosch, S., & Fuqua, R.W. (2001). Behavioral cusps: A model for selecting target behaviors. *Journal of Applied Behavior Analysis, 34*(1), 123–125. https://doi.org/10.1901/jaba.2001.34-123

Cooper, J.O., Heron, E., & Heward, W.L. (2007). *Applied Behavior Analysis (2nd edition)*. Pearson education, Inc.

Cooper, J. O., Heron, E., & Heward, W. L. (2020). *Applied Behavior Analysis (3rd edition).* Pearson education, Inc.

Crespo López, C., & Larroy García, M. (1998). *Técnicas de modificación de conducta. Guía práctica y ejercicios*. Dykinson.

Dowdy, A., Nepo, K., Miodus, S., Quigley, S., & Sevon, M. (2023). Operational Definitions, Observation, and Behavioral Recording in Applied Behavior Analysis. In: J. L. Matson (Ed.). *Handbook of Applied Behavior Analysis for Children with Autism. Autism and Child Psychopathology Series* (pp. 107-129). Springer Nature Switzerland AG. https://doi.org/10.1007/978-3-031-27587-6_1

Epp, M., Dobson, K.S., & Push, D. (2012). Psychopathology: Diagnosis, Assessment, and Classification. In V. Ramachandran (Ed.), *Encyclopedia of Human Behavior* (pp. 224–233). The Guilford Press.

March, R.E., Horner, R.H., Lewis-Palmer, T., Brown, D., Crone, D., Todd, A.W., & Carr, E. (2000). The Functional Assessment Checklist for Teachers (FACT). *Educational and Community Supports*, Eugene, OR.

Muris, P., Merckelbach, H., Holdrinet, I., & Sijsenaar, M. (1998). *Behavioral Avoidance Test (BAT)* [Database record]. APA PsycTests.