A HANDLING DEVICE FOR SMALL ANIMALS¹

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Although the handling of animal subjects may be eliminated by procedures which combine the animal's living space and test chamber in a single compartment (*e.g.*, Findley, 1959), the procedures of small animal studies usually involve considerable experimenter handling. It is generally recognized that such handling may be a source of both constant and variable error (*e.g.*, Gagné and Graham, 1940; Rosenthal, 1963). This paper describes a device designed to aid in the standardization of animal handling and to reduce handling-induced error. The unit is inexpensive, simple to construct, and easy to use. It is appropriate to the design of any individual open-top laboratory cage and is adaptable to a variety of test situations.

Basically, the device is a small box constructed to fit closely the inside dimensions of the animal's living space (see Fig. 1). The particular unit now in use is 7 by 7 by 9 in. to accommodate the dimensions of a Wahmann Co. suspension-type cage. It is constructed of $\frac{3}{8}$ -in. Plexiglas, and is open at the bottom. A $\frac{1}{2}$ -in. slot is centered along the length of the top piece. A $\frac{3}{16}$ -in. wide and $\frac{1}{8}$ -in. deep continuous groove is cut on the inside of each side piece to form U shaped tracks which border the top, one upright, and the bottom edges. A sliding panel 16 in. long and the width of the box runs in the symmetrically positioned tracks. The panel is made of parallel hardwood slats (each $\frac{1}{2}$ in. wide) glued to a flexible backing (oilcloth) and is moved by means of a small bar attached at a right angle to its upper end and projecting through the slot in the top of the box. Thus, by moving the bar through the full length of

the slot the panel may be moved to provide a floor enclosing the bottom of the device or it may be fully drawn up within the box. A strip of leather attached across the top of the box serves as a handle.

To secure the animal in the device the experimenter simply lowers it into the cage over the animal and moves the sliding floor into place. In the initial use of the device the animal may hesitate slightly as the sliding floor nudges its feet, but with one or two experiences the subject quickly learns to step onto the panel. A small gap between the end of the floor and side of the box insures that the subject's feet or tail will not be pinched while being secured. Securing the subject in the handling box requires about 5 to 10 sec. This handling procedure has been used in experiments employing a discrimination training apparatus which was equipped with a starting box, the dimensions of which approximate those of the handling device. This enabled the use of the device to introduce and remove rats from the training situation.

The handling box may also be useful in other applications. Since the animals tend to remain quiescent when being handled in this manner, they may be quickly and accurately

Fig. 1. Schematic diagram of the handling device.

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weighed by placing the device on a scale. The device may also be adapted (by means of inserting space dividers) to restrain small animals for physiological treatments, *e.g.*, drug injections. Current devices for this purpose often occasion considerable stress in the initial securement of the subject. The device should also be useful in connection with a number of laboratory treatments where the subject is apt to become difficult to handle (*e.g.*, isolation, prolonged deprivation, punishment).

In many cases, the handling device designed for a given space may be used with larger maintenance or test areas by inserting appropriately sized fillers into the latter units.

Also, the device's basic principle of operation may be incorporated in the design of similar boxes for use with a variety of training apparatuses (*e.g.*, mazes, "Skinner boxes").

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