

Some guidelines for use of the CAMPIS/CAMPIS-R

The 35 code Child-Adult Medical Procedure Interaction Scale (CAMPIS) was designed to capture most of the interactions which occur during children's acute painful medical procedures. It was originally developed for coding transcriptions based on audiotapes of children undergoing bone marrow aspirations and lumbar punctures. Since that time, we have used primarily videotaped recording of the medical treatment of interest. Relying on videotaping as a means of data collection, we have also used the CAMPIS and the revised CAMPIS (CAMPIS-R) effectively with children undergoing BMA or LP procedures, IM and IV injections for chemotherapy, and routine immunizations. We are also aware of it having been used during physical therapy and during injections which infants receive.

Some unique aspects of the CAMPIS/CAMPIS-R include the explicit emphasis on child coping as well as distress, on the variety of adults' behaviors which occur in the treatment room, and highlighting of the fact that child medical treatment occurs in a social context which influences the child's distress and coping. Further, there are variations in the interactions across the phases of the medical procedure. Finally, the behavior of everyone in the treatment room influences everyone else in the treatment room. The most important clinical implication of this is that the social environment has been shown to be a powerful determinant of children's reactions to medical treatment, and, compared to the effects of parent or child anxiety or previous medical experience, one of the most easily modified.

In the original use of the CAMPIS, we coded for affect, but have not used those codes since that time.

The CAMPIS-R is a regrouping of the original CAMPIS codes into six categories. For the children, codes include Coping, Distress, and Neutral. These codes were derived in part from the literature and in part based on our original research. The adult codes include Coping Promoting, Distress Promoting, and Neutral. In much of our research, we have found it useful to first code using the CAMPIS, then to group the codes into CAMPIS-R categories. This allows maximal flexibility in combining the CAMPIS code groups as needed for the particular investigation. In most investigations, we have coded all of the vocal behaviors which occurred. However, in some investigations, we have selected only CAMPIS or CAMPIS-R codes of particular interest, ignoring the other behaviors which were occurring in the medical treatment room.

The CAMPIS and CAMPIS-R codes have been modified somewhat from time to time to fit the demands of the study. For example, in one treatment study, we used videotaped distraction as an intervention for reducing child distress. Children looking at or pointing toward the monitor were coded as coping behaviors, even though they were visually observed, as opposed to being vocal behaviors. In like manner, a nurse pointing to the monitor as a prompt for the child to attend would be coded as a Command to Engage in Coping Strategy. The important point is to have the new examples or exemplars remain conceptually consistent with the code definition. Similarly, we routinely record restraint as a child distress behavior.

Coding has been conducted in a variety of ways. In our original and some subsequent research, we first transcribed the medical treatment and then coded each of the events in order. This is probably the best way of coding behavior, and helps promote high interrater reliability. It also provides data that are very adaptable to sequential analysis. However, it is very time consuming. As an alternative, we have also used an interval coding format, preferring 5-second continuous coding intervals. Each behavior of interest is coded as occur or non-occur during

each interval. These relatively short intervals again allow for maximum flexibility in that short intervals can always be combined into larger units. On our videotapes, we typically have a stopwatch displayed to facilitate this process.

Coding transcripts without using an interval coding procedure presents problems when observing continuous or near continuously occurring behaviors, such as crying. Crying may begin only once, but last for minutes. We have arbitrarily used the rule of saying that such continuous behaviors are transcribed as occurring every third codeable behavior in the transcript.

Several metrics have been used with the CAMPIS/CAMPIS-R data. Frequency alone is of little value because of the varying lengths of medical procedures. Rate is one standard metric we have used in our laboratory, and is calculated as frequency per minute. Proportion is another metric we have used often. Proportion has been calculated in two ways. We have used proportion to represent the number of times a given code occurs, divided by the total number of instances of codeable behavior that individual engaged in. The other way of calculating proportion is to determine the number of intervals in which the behavior occurred divided by the total number of intervals for the session. There are advantages and disadvantages to each method.

The phase designations to be included in an investigation should vary with the demands of the study. The most basic designations are before, during and after. Other terminology includes the anticipatory phase, encounter or painful phase, and the recovery phase. Our 1990 article on phase effects highlights some of the phase designations which have been used by other investigators. We originally included 9 phases for children receiving BMAs and LPs. However, we have included a few as 3 phases, and have reported only total session results for the sake of simplicity.

The method sections of our empirical research describes many of the details of using the CAMPIS and the CAMPIS-R.

I request that you send me copies of any research in which the CAMPIS/CAMPIS-R has been used, whether published or not. In this way I can keep my files current, use the information to assist others in the future, and further refine the scale as needed.

For further information or assistance on the use of the CAMPIS/CAMPIS-R, please contact:

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