Reviewer's report

Title: Pictorial Representation of Attachment: Measuring the parent-fetus relationship in expectant mothers and fathers

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Reviewer: Helen McK. Doan

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Title: makes no reference to two of the variables studied, parity and age

Abstract:
- The aim outlined in the abstract is different from the two aims stated on page 6 of the introduction. In the abstract, they do not refer to parity and age.
- Did they measure the “usefulness” of the measure or whether the PRAM has convergent validity as a measure of attachment?
- Should include a brief statement of the procedure
- There is no mention of the results with age and parity
- How did the results show that the PRAM is an “effective” instrument of “parent-infant” bonding?

Introduction:
P3. L6 It is not clear what the terms “young parents” mean? Is it referring to age of the parent or attachment of parents-to-be during pregnancy?

P4 L2 several of the terms the authors use are not scientific or self explanatory, e.g., L2 “useful and meaningful”; or L 6 “slight tendency”;

L3 the measures are lengthy and require considerable time to complete-e.g., Condon’s measure is only 19 items. Why is this considered lengthy?

It is true that a verbal measure requires a certain reading level.

And, it is creative to look at a non-verbal measure.

The verbal measures have several data points, the nonverbal measure has one. What do the authors feel about this?

Why is it felt that verbal measures, and not non-verbal measures, are affected by social desirability of response? Is there any literature to suggest that this is true?

It is very likely that both verbal and non-verbal measures are affected by social desirability. It partly depends on how the data is collected, which is not well explained in this study.

L9 non-verbal measures can be used to obtain “useful information” why not verbal measures?

L11- when the authors propose an alternative method, why is there no reference to the pilot study by Van Bakel, Vreeswijk & Maas (2009) as well as a discussion
of how the present study is similar or different from the original study? There is more discussion of the PRISM measure than the original study using the PRAM. I would think that the 2009 study is the base from which this study developed.

How do the authors know that the PRAM can be validly used with parents from different ethnic backgrounds? Was this a factor that was looked at in the data?

A discussion of the 2009 study would help the reader to understand the basis for assuming the PRAM is measuring “feelings of connectedness”. What do the authors mean by the terms “feelings of connectedness”? Are they using these terms as equivalent to “attachment”?

P5 How are the studies about the PRISM and PTSD or non-physical illness or loss of a premature child related to the present study?

Para 2- What does it mean to say “considerable similarity” or “adequate convergent validity”?

When they say they introduce the PRAM, what about the previous study?

“expect it to be a useful tool” – what does this mean?

It is not clear what “the place of the (unborn) child…”means to the parents. Where the parents ever asked what the question meant to them?

P6 The authors mention some of the research studies on prenatal attachment of expectant mothers and fathers. Do they have any suggestions as to why this literature is so inconsistent? Of interest would be a critical evaluation of the inconsistencies in the literature and a discussion of what the authors are adding to this literature.

Parity and age are mentioned without a rationale for selecting them as research variables. Why is it important to study them? And, with the inconsistent findings in the literature with both of these variables, what will this study add or how will this study help to clarify, or further explore, the inconsistencies?

With the aims of the study, the relationship between PRAM and Condon’s measures of prenatal attachment has already been studied, what do the authors want to add in doing this study?

From the research literature, did the authors have any hypotheses about what they would expect to find in their study?

P7

It is not clear to me why the PRAM is “specifically directed at the fetus per se”. I would suggest using “significantly correlated” rather than “meaningfully associated”.

Method:

P8 It is mentioned that the present study is part of a larger project, but not explained where in the project this part of the study was done. What other measures were included in the larger study? It would be particularly important to know what other measures preceded those used in this study. How did the
present study fit into the larger project? Did the same person administer the study measures that administered the other measures in the larger project? They say that between 9 and 15 weeks gestational age, the women were invited to participate in the larger project. What was the gestational age when the different measures were administered? How were the men invited to participate? What information about the aim and design of the study were the participants given both for the larger project and for the present study? Where the order effects of the measures used in this study counterbalanced? “Most participants were white Caucasian” – what were the other participants and did this variable seem to affect the results in any way? Was the group divergent in terms of variables such as family income, if both parents were working or not? Under what conditions were the parents tested? For example, were the parents tested separately, immediately after each other, or, in some cases, was there a period of time so that the parents could have spoken to each other about the measures? What instructions were given to them? Were the instructions given in both Dutch and English? Is there a difference in the meaning of the word “place” in the different languages? Why were the terms “the place of the baby in your life at the moment” chosen. How do the authors know what these terms mean to the participants. Was there any kind of pilot work done to determine if this language was easily understood and what it meant to the participants? P10 How was the PRAM introduced to the parents? Did the authors find that any of the parents had difficulty understanding what “where would you place the baby in your life at the moment” meant? Did the terms have to be explained more than once, or in another way, to any of the parents? As stated earlier, it would be very interesting to know what “the place in your life” would mean to the different parents.

Results:
P11 Table 1 could also have included the descriptive statistics for each measure and parity. It would also be helpful to the reader to include the range of scores for each variable. Probability values are usually in the text Terms such as “moderate” correlations, “somewhat lower” correlations are not precise.
P13 It would add to the understanding of the data to test for the interaction between age and parity.

Discussion:
P14 The authors switch from one to two study aims. Also, I have problems with the assumption that because the PRAM is correlated
with Condon’s measures that means it is “a valid and feasible instrument to 
measure parental prenatal bonding and connectedness” and “represents the 
emotional feelings of connectedness and bonding towards the unborn child 
during pregnancy” and, that “the Pram-SBD is a reflection of a general feeling of 
bonding and connectedness with the unborn child at that moment”. These 
statements are conceptual leaps which are not justified by the data presented. 
How do the authors feel they have tested the "emotional feelings of 
connectedness"?

Are the authors planning to follow-up on this study by examining more directly 
what the concept of “Place” means to the expectant parents? Understanding the 
meaning of the instructions to the participants is particularly important when you 
have one data point.

How do the results in the present study relate to the findings of the 2009 pilot 
study? Why was this comparison not discussed?

Why might the PRAM be a “less judgmental” measure and how do you know that 
it may be limiting social desirability bias?

The terminology, “couples to some extent share their degree of bonding with the 
fetus” is vague, particularly when there was a significant difference between 
mothers and fathers. How do the authors feel their findings relate to the research 
literature on prenatal attachment of mothers- and fathers-to-be?

While noting gestational age is important to attachment, it is not clear in the study 
how many weeks pregnant the mothers were or why this time was chosen.

There is a typographical error L13 “to the same extent” (extent).

P15 Why is the PRAM considered a "more implicit measure"

How can it be explained that some researchers feel that individual scores on 
prenatal attachment seem relatively stable from the first to the third trimester and 
others feel there is an increase over time? It would have added considerably to 
the write-up if the research literature was critically evaluated.

P16 The authors propose that since parity had no effect on the scores on the 
PRAM, but did have an effect on the Condon measures, that the PRAM might be 
an aspect of bonding that is less affected by the experience of having previous 
children and “therefore might be a more robust measure of global feelings of 
connectedness. Is it not equally possible to argue that the PRAM is a less 
sensitive measure of attachment and perhaps has less discriminant validity or 
measures some aspect of “connectedness” that is correlated with prenatal 
attachment? These are really research questions that need to be tackled before 
making the type of assumptions that the authors seem to be proposing.

How is it known that the PRAM is a more global measure of connectedness?
What is an operational definition of “connectedness”? Could it be physical 
connection?

The statement that “the more global feeling of connectedness and 
bonding............can be considered a more pure and unconscious measure of 
 bonding” is a major conceptual leap from the results. What type of further study
would the authors suggest are needed to substantiate these assumptions?

P17 The point about the optimal distance between Baby and Self is an excellent one. Do parents tend to place the circle for the Baby above or below or on the same line or over the parents circle? It would be very interesting to have a discussion about individual differences in responding to the task.

Before knowing the clinical usefulness of the instrument, it would seem important to have a more specific idea of what the measure is measuring. What are the authors' ideas of future research?

Some General Conclusions:
This study describes a creative idea for the measurement of attachment and would be of interest to researchers in the prenatal attachment field. However, there are several problems with many of the assumptions expressed in the article and with the general write-up of the findings.

In the introduction, there is not a clear rationale for the selection of the variables studied. There are assumptions presented about the PRAM being a measure of "the feelings of connectedness" which are not tied to any data. From a critical evaluation of the research literature did the authors have any hypotheses about the relationship between the PRAM and the other variables studied? What do the authors see as the major contribution of this study beyond the 2009 study?

Some of the terminology used is unscientific and not self-explanatory, e.g., "considerable similarity".

The method used in the study is not well-described, particularly considering this study is part of a larger project. There is no description of how this study fit into the larger project. The details of the method are limited. There are some particularly important factors that are not included, e.g., the order effects of the presentation of the PRAM and the Condon measure of attachment, the general instructions that were given to the participants, or where and how was the testing done.

Some discussion of the range of responses and reactions of the participants to the instructions would be helpful to the reader to understand the results. I would also think that this type of information would be useful to the authors in starting to understand how the participants interpreted the instructions.

The discussion section includes many assumptions that go well beyond the data described, e.g., that the PRAM "can be considered a more pure and unconscious measure of bonding".

It is not clear why the 2009 study was not discussed in more detail and how the findings of the original study relate to the present findings.