SECTION TWO

CHAPTER SIX

GUIDE TO USING THE OPHI-II KEY FORMS

What are the OPHI-II Keys?

The OPHI-II keys are a way to obtain numerical scores from the ratings you do on the scales.

Why do I want to get numerical scores?

Numbers are short hand references that measure something just like a ruler. In this case the numbers you obtain measure identity, competence, and positive environmental impact of the client. These numbers can be used to enhance clinical understanding, such as comparing the scores that different client’s get on the scales. You can use the numbers to share information with others about a particular client. You can also aggregate the numbers (e.g. calculate an average) to characterize the type of clients that are being seen. For example, the mean scores might show that your clients generally have good identity but problems in competence, or the mean may show that your clients have both low identity and low competence. Numbers are, therefore, useful in a variety of ways for making judgments and for reporting on clients.

Why can’t I get numbers by just adding up my ratings?

It is common practice to obtain scores from rating scales by simply adding up the rating scale points. However, this method is incorrect since adding up ordinal ratings gives meaningless and invalid numbers. In addition, all scale items must be rated to derive a final total score; if you don’t rate a particular item you cannot derive a total score from adding up ratings. So, the keys give you a quick and efficient way to generate meaningful and mathematically useful scores from your ratings, even if all items are not rated.

Understanding the OPHI-II Keys

When completing the OPHI-II scales (see Chapter Five) the therapist completes a 4-point rating across several items. These ratings are helpful in illustrating where a client’s strengths and weaknesses lie. However, it is often useful and desirable to have a single number which summarizes or characterizes all of the ratings. The most typical method for rating scales is to sum each of the ratings to obtain a total score. However, obtaining a total score in this way creates a number of problems.
First, the 4-point rating scale provides ordinal data which technically cannot be added, subtracted or multiplied. For example, if you assign a rating of 4 on an item for one client and a rating of 3 on that same item for a second client you can say that the former is doing better, but you can't say exactly how much better. The answer to the question “how much?” requires interval level data in which the distance between 3 and 4 is defined (and is equivalent to the distance between 1 and 2, and 2 and 3 on the scale). In ordinal scales it can only be said that 2 is more than 1, 3 is more than 2, and 4 is more than 3, but not by how much. Similarly if one client gets a rating of 2 and another gets a rating of 4, it cannot be said that the latter client is doing twice as well as the former. Once again, this is because “twice as well” multiplication is not applicable to ordinal data.

Second, adding up the ratings of items on a scale assumes that all items equally represent the trait we are measuring, but this is not the case. For example, on the occupational identity scale the item “has personal goals and projects” represents a more challenging or higher-level item than “has interests”. Therefore we would generally expect that it is harder to get a rating of 4 on the former item than on the latter. And, getting a high rating on “has personal goals and projects” is indicative of a more adaptive occupational identity than getting a 4 on the item, “has interests.”

Third, in completing rating scales we often leave 1 or more items unrated because we lack information or it’s not relevant to the client. When that is the case, we cannot add the ratings because of missing data.

In order to get numbers that will allow us to compare and analyze data, ordinal ratings must be converted to interval level measurements that can be manipulated mathematically. Rasch Analysis (Rasch, 1980), which has been used to study and develop the OPHI-II, converts the ratings given by the therapist into interval measures. However, this conversion process via Rasch analysis has typically required the data to be entered into a computer and analyzed along with data from other subjects. More recently, Fisher (1999) described a new technique in which a “key” can be created when enough subjects have been studied. The key allows a therapist to convert the raw ordinal ratings given after the interview into interval measures.

**Advantages of using the OPHI-II Keys**

Keys for each of the three OPHI-II scales have been developed to allow the therapist to obtain interval measures immediately. The OPHI-II keys have the following advantages:

1) They convert ordinal level data to interval level data without the necessity of computer analysis.
2) They allow a measure to be obtained even when data is missing (i.e., when 1 or more of the items are not rated).
3) They allow the therapist to identify when a person rated on the OPHI-II scales deviates from the usual pattern of ratings. Such deviation is often helpful when interpreting a client’s scores.
Directions for completing the OPHI-II Keys

Below we discuss how to use the OPHI keys. For the purpose of the following illustration, only the Occupational Identity Scale has been used, but the procedure is the same for all 3 keys.

Using the Key to Obtain a Score When All Items are Rated

(See Example 1, p. 72)

Depending on the therapist's preference the key form can be used for rating the client directly, or after one of the rating forms (see Chapter Five) are used. The therapist then records the ratings on the key form. In either case, to enter the information on the key form you should:

1) Turn the OPHI Key on its side (Landscape Format).
2) Record the ratings in the leftmost column marked “rate client here”.
3) Calculate the sum of the ratings and record on the “total score” line.
4) Turn the form back upright (portrait format).
5) Locate the total score you obtained in the first (left) column, marked total score. This is labeled with the number (3) in this example key.
6) Now, look at the corresponding numbers in the two following columns. The middle column (labeled (4) in this example key) is the client measure—it is based on a 100 point scale where 0 is the least amount of occupational identity and 100 is the most occupational identity that can be captured with this rating scale. The second number is the Standard Error of that measure (labeled with a (5) in this example key).
7) Record the client measure and standard error numbers in this box onto the lines titled “client measure” and “standard error”.

For example, if you completed the Identity Key and added items obtaining a total raw score of 29, the client measure (i.e., interval score) is 47 and the standard error of that number is 4.

You will note that the standard error increases near the ends of the scale and is smallest at the center of the scale. This occurs because when a client is rated at the highest or lowest ratings (1’s or 4’s) the person’s identity in theory may actually be higher than a 4 or lower than a 1. As a result, 1’s and 4’s are shown on the form as a range (e.g., 1…..1 and 4…..4) rather than a single point like ratings of 2 and 3.

Examining the Pattern of Scores

(See Example 2, p. 73)

In addition to adding the scores and obtaining the client measure from the raw total score, it is also useful to circle the numbers in order to inspect what the pattern reveals. There are two things that can be readily discovered. First, if someone’s pattern of ratings are all or mostly at the extreme (i.e. all or mostly 1’s or 4’s), then the person has likely demonstrated a ceiling or cellar effect—that is, he or she has either more or less identity then this scale could measure.

Second, the scale can show if a person has an unusual pattern of scores. As we noted earlier, it is expected that people score higher on the items that represent less identity then on the items that represent more identity. This is similar to the expectation that on a math test we would expect people to do better on the item 2+2 than on the item 3798 x 2321. The latter item represents a higher level of math ability. If someone missed 2 + 2 and got 3798 x 2321 correct, we would want to know why.
Similarly, if someone deviates from the expected pattern of scores on the OPHI scales, we should inquire as to why.

In the example (p. 73), this client received ratings of 1 on the three items of the OPHI scale that represent the least amount of identity (past occupational identity), while obtaining mostly 3’s on the rest of the items. This is an unexpected pattern because we would expect in most occupational therapy clients to see higher scores on easier items such as past occupational choices, and lower scores on more difficult items such as accepts responsibility. This client’s pattern of response reflects the fact that the client reported a past in which his identity was low due to being a homeless drug addict. He reported that he presently has commitments and values, goals and projects, and expected success, despite not being effective or making choices in the past. Thus his pattern deviated from that of most clients who come into therapy at a time when their current occupational identity is at a lower level than in their past.

When this occurs scores that deviate from the expected pattern should not be used to obtain a measure. So, you would NOT add up the raw score and find the corresponding person measure and standard error. Rather you have two options. The first, more conservative option is to conclude that the instrument is not working in the way intended for this particular client. Therefore, a person measure would not be derived from the key. A second option is ignore the items with unexpected ratings while using the other items to estimate the person measure. In this case, the items with unexpected ratings are treated as equivalent to missing data. When using this option, the keyform is scored with the remaining items following the line method of scoring discussed below.

The choice of which approach to use depends on: a) how important it is to obtain a person’s measure, and b) the number and interpretation of unexpected item ratings. If there are one or two unexpected ratings and you can make clinical sense of those ratings, you can use the line method to obtain a score. If the client’s pattern of scores makes no sense, it is best not to obtain a client measure.

**Obtaining A Measure with Missing Data or Unexpected Rating Patterns**

*(See example 2, p. 73)*

If you have not scored all items (or if unexpected rating patterns are being treated as missing data), then the procedure is as follows:

1) Turn the OPHI Key on its side (Landscape Format).

2) Circle all the corresponding numbers for the items you DID rate.

3) Draw a line down the body of the key form, by eye, through the center of the group of the ratings (in the case of 1’s and 4’s where a circle is drawn, you must chose a point within the circle that you consider to be where the rating is.

To do this you should consider the center of the ratings as the point most consistent with the other ratings. If most ratings are 2’s and 3’s, then draw the line down the center of the group of those ratings, between the 2’s and 3’s. If the ratings are mostly extreme scores such as 4’s or 1’s, the center of those scores would be the most extreme point on the scale. For example, if all the ratings are 4’s then chose the outer part of the 4’s range as the center point when drawing the line for rating. Or, if half the ratings are 1’s and the other half are 2’s, then chose a point in the 1’s range closer to the 2’s as the center point when drawing the line for rating. Making ratings under these circumstances is a judgment call.
4) The line you draw will intersect a client measure (labeled with a (1) in this example key) and corresponding standard error (labeled with a (2) in this example key), as shown in example 2, in the box immediately below the key.

5) Turn the form back upright (portrait format).

6) Look at the client measure and standard error numbers intersected by your line (labeled with a (1) and (2) respectively in this example key). Record the numbers intersected by the line you drew onto the lines titled “client measure” and “standard error”.

In this example, the line drawn gives us a client measure of 42 and a standard error of 4.

The accuracy of obtaining a score in this way depends on how many missing (or unexpected) data points there are and how carefully the line is drawn. A good rule of thumb to use when more than three of the items are not rated or misfit the expected pattern, is to arrive at the conclusion that you do not have enough information to obtain a score using this procedure.
### Occupational Identity Key

<table>
<thead>
<tr>
<th>Trait</th>
<th>Rating</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has personal goals and projects</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Identifies a desired occupational lifestyle</td>
<td>3</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Expects success</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Accepts responsibility</td>
<td>3</td>
<td></td>
<td>2</td>
<td></td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Appraises abilities and limitations</td>
<td>3</td>
<td></td>
<td>2</td>
<td></td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Has commitments and values</td>
<td>2</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Recognizes identity and obligations</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Has interests</td>
<td>3</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Felt effective (past)</td>
<td>3</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Found meaning and satisfaction in lifestyle (past)</td>
<td>3</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Made occupational choices (past)</td>
<td>3</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

| Total Score | 29 |

**Client Measure** | 47

**Standard Error** | 4
Occupational Identity Key

Rate Client Here

<table>
<thead>
<tr>
<th>Item</th>
<th>Rating</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has personal goals and projects</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Identifies a desired occupational lifestyle</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Expects success</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Accepts responsibility</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Appraises abilities and limitations</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Has commitments and values</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Recognizes identity and obligations</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Has interests</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Felt effective (past)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Found meaning and satisfaction in lifestyle (past)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Made occupational choices (past)</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Total Score: ?

Client Measure: 42

Standard Error: 4

Measure client here. Circle ratings and draw line.
REFERENCES
