

What are implicit measures and indirect measures of attitude?

A comment on Spence (2005)

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In this paper, I argue that implicit measures are best conceived of as outcomes of measurement procedures that have certain functional properties. This definition calls for a conditional approach in which one specifies for each measure the functional properties that the term 'implicit' is meant to refer to and in which the functional properties of each measure are examined empirically. The expression 'indirect measure' on the other hand refers to an objective property of measurement procedure, being that the researcher does not assess the attitude on the basis of a self-assessment by the participant but on the basis of another behaviour.

SPENCE (2005) PROVIDES A scholarly review of the literature on implicit measures of attitudes. Her review is particularly valuable in that it focuses on a broad range of issues, including the structural and psychometric properties of various implicit measures, the processes that underlie them, and the characteristics of the attitudes that are captured by these measures. The paper by Spence thus provides a helpful summary of the available literature, although it does contain a few minor inaccuracies (e.g. unlike to what is stated in Table 1 of Spence (2005), relevant S-R compatibility is not manipulated in the extrinsic affective Simon task, see De Houwer (2003), and Spence does not discuss recent evidence showing that the nature of the items does play an important role in the Implicit Association Test, see De Houwer, Geldof & De Bruycker, in press; Govan & Williams, 2004). What Spence does not address, however, is the question of what sets so-called implicit or indirect measures apart from more traditional (explicit) measures of attitudes such as questionnaires. One can hardly blame her for this oversight because it is a question that, despite the immense popularity of implicit attitude measures, is almost never addressed. As a complement to the paper of Spence (2005), I will briefly summarise my views on what the defining characteristics of

implicit and indirect measures are (see De Houwer, in press, for a more detailed description).

As a starting point, it is important to realise that the term 'measure' can be used in different ways. It can be used either to refer to the outcome of a measurement procedure (e.g. a particular score on a questionnaire or a particular pattern of reaction time performance such as an IAT effect) or to the objective measurement procedure itself (e.g. the questionnaire itself as consisting of certain instructions and certain questions or the exact instructions and stimuli that are presented during an IAT task). In her title, Spence (2005) speaks of 'implicit tasks', suggesting that procedures can somehow be implicit. But tasks and procedures are simply a set of objective guidelines about what a researcher should do. In my opinion, it only makes sense to use the adjective 'implicit' when it refers to the outcome of a measurement procedure and more precisely, to the functional properties of a measurement outcome. That is, a measurement outcome X can be called an implicit measure of an attitude Y if X functions as a valid and reliable index of Y under a certain set of conditions (e.g. despite the fact that participants are not aware of the fact that the attitude is being measured, do not have conscious access to the attitude, or

have no control over the measurement outcome). Which functional features can be considered as typical for implicit measures is open for debate. Most often, the term 'implicit' is used to refer to properties related to (un)awareness. However, much can be said for using it in the more broader sense of 'automatic' (see De Houwer, in press).

Because the term 'implicit measure' can refer to several functional properties that do not necessarily co-occur, it is always necessary to specify which properties one has in mind when saying that a particular measure is implicit. Also, before one can say that a measure is implicit in a certain sense, evidence is needed that supports the assertion that the measure has certain functional properties. For instance, existing evidence suggests that participants have little intentional control over the outcome of the IAT (e.g. Steffens, 2004) but are often aware of what a certain IAT is meant to measure (e.g. Monteith, Voils & Ashburn-Nardo, 2001). Therefore, an IAT effect can be regarded as an implicit measure in the sense that the size and direction of the IAT effect is difficult to control, but not in the sense that participants typically unaware of the fact that the IAT effect measures the target attitude. In order to claim that a measure is implicit, it is thus not only necessary to demonstrate that the measure is valid and reliable (otherwise it is not a measure in the real sense of the word), one also needs to specify its functional properties and collect evidence to support these claims about functional properties (otherwise it cannot be called implicit).

Whereas the term 'implicit measure' refers to functional properties of a measurement outcome, the term 'indirect measure' refers to an objective property of a measurement procedure. In contrast to direct measures of attitudes, indirect measures do not entail that participants self-assess the attitude that is being measured. Rather, the attitude

is inferred from another behaviour. Whether the researcher infers the attitude on the basis of the participant's self-assessment of this attitude or on the basis of another behaviour is an objective property of the procedure.¹ Hence, there is no need to do research about whether a measure is direct or indirect. It can be determined simply by looking at the procedure. Consider the following example. In a typical study on the name letter effect (Nuttin, 1985), participants are asked to express their liking of each letter of the alphabet using a Likert-type rating scale. This measurement procedure is a direct measure of attitudes towards letters. However, on the basis of these ratings, researchers can indirectly infer self-esteem by comparing how much a person likes the letters of his/her name better than other letters. There is indeed evidence that this indirect procedure of assessing self-esteem results in valid estimates of self-esteem (e.g. Koole, Dijksterhuis & van Knippenberg, 2001).

It should be clear that indirect measures are not a separate class of measures next to the class of implicit measures. The qualification 'direct/indirect' refers to the measurement procedure whereas the qualification 'implicit/explicit' refers to the functional properties of the outcome of the measurement procedure. Each direct and indirect measure produces an outcome with certain functional characteristics. Not all indirect measures produce outcomes that have functional features typical of implicit measures. Whether they do, is a matter of research. Likewise, direct measures do not by definition provide explicit measures. For instance, one can ask participants to express their liking of a certain attitude object as quickly as possible or while performing a demanding secondary task. In such cases, participants might have little control over the expressed attitude (e.g. Wilson, Lindsey & Schooler, 2000). But regardless of whether a measure is direct or indirect, one should

¹ Note that a procedure not only involves guidelines about the nature and presentation of the stimuli but also about how responses are recorded and recoded.

always verify what the functional properties of the measurement outcome are before claiming that it is an implicit measure.

As is evidenced by the review paper of Spence (2005), implicit and indirect measures of attitudes have become popular topics of and tools for research. Although I agree that this attention is well merited because of the possible benefits of these measures (e.g. De Houwer, in press; Fazio & Olson, 2003), the literature on implicit measures suffers from a lack of conceptual clarity with regard to its core concepts. I hope that the analysis put forward in this comment will help to resolve this problem.

References

- De Houwer, J. (2003). A structural analysis of indirect measures of attitudes. In J. Musch & K.C. Klauer (Eds.), *The psychology of evaluation: Affective processes in cognition and emotion* (pp.219–244). Mahwah, NJ: Lawrence Erlbaum.
- De Houwer, J. (in press). What are implicit measures and why are we using them? In R.W. Wiers & A.W. Stacy (Eds.), *The handbook of implicit cognition and addiction*. Thousand Oaks, CA: Sage.
- De Houwer, J., Geldof, T. & De Bruycker, E. (in press). The Implicit Association Test as a general measure of similarity. *Canadian Journal of Experimental Psychology*.
- Fazio, R.H. & Olson, M.A. (2003). Implicit measures in social cognition research: Their meaning and use. *Annual Review of Psychology*, 54, 297–327.
- Govan, C.L. & Williams, K.D. (2004). Changing the affective valence of the stimulus items influences the IAT by re-defining the category labels. *Journal of Experimental Social Psychology*, 40, 357–365.
- Koole, S.L., Dijksterhuis, A. & van Knippenberg, A. (2001). What's in a name: Implicit self-esteem and the automatic self. *Journal of Personality and Social Psychology*, 80, 669–685.
- Monteith, M.J., Voils, C.I. & Ashburn-Nardo, L. (2001). Taking a look underground: Detecting, interpreting, and reacting to implicit racial bias. *Social Cognition*, 19, 395–417.
- Nuttin, J.M. (1985). Narcissism beyond Gestalt awareness: The name letter effect. *European Journal of Social Psychology*, 15, 353–361.
- Spence, A. (2005). Using implicit tasks in attitude research: A review and a guide. *Social Psychology Review*, 7(1), 2–17.
- Steffens, M. (2004). Is the Implicit Association Test immune to faking? *Experimental Psychology*, 51, 165–179.

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