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Psychometric properties of a Chinese version of the Measure of Empathy and Sympathy☆

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ABSTRACT

Self-report measures of empathy have several limitations, including conceptual confusion with similar constructs (especially sympathy), ambiguous item wording and lack of brief forms. The Measure of Empathy and Sympathy (MES) has made important gains in addressing these problems. This study evaluated the psychometric properties of the MES based on a sample of 608 Chinese university students. Results showed that the MES was structurally reliable, internally consistent, test-retest stable, and acceptable in terms of criterion-related validity. In conclusion, the MES is a promising instrument to assess empathy and sympathy in the Chinese population. However, we recommended using separate subscale scores or the sum of the cognitive and affective empathy subscales according to Omega indices and incremental validity, but not using the total MES score because of the concept difference between sympathy and empathy.

1. Introduction

Empathy is commonly defined as understanding and sharing in another's emotional state or context (Cohen & Strayer, 1996). According to substantive studies in psychometrics and cognitive neuroscience, empathy consists of two distinct but interrelated components: affective empathy and cognitive empathy (Fan, Duncan, De, & Northoff, 2011; Smith, 2006; Vossen, Piotrowski, & Valkenburg, 2015; Walter, 2012). The former refers to the ability to experience others' emotions (Bryant, 1982), whereas the latter pertains to the comprehension of others' emotional state (Hogan, 1969).

Empathy plays a vital role in socialization and interpersonal interaction (Thompson, 2000). For example, it has been well documented that empathy is an incentive for prosocial behavior (Decety, Bartal, Uzefovsky, & Knafo-Noam, 2016; Lockwood, Searacardoso, & Viding, 2014; Morelli, Rameson, & Lieberman, 2014). Empathic impairment, conversely, has been found to be related to problematic behaviors such as offending (Jolliffe & Farrington, 2007), psychopathy, narcissism and Machiavellianism (Wai & Tiliopoulos, 2012).

In addition to being the focus of research, expectations about the importance of empathy influence clinical assessment and treatment (Vachon, Lynam, & Johnson, 2014). For example, many child and adult externalizing disorders in the DSM-5 specify a lack of empathy as a major characteristic or diagnostic criterion. Empathy training is a core element of therapy programs.

1.1. Limitations of the existing measures of empathy

Given the important role of empathy in social behavior, it is essential to have a valid way of assessing this psychological construct. By far the most common approach to measuring empathy is through self-report scales (Geng, Dan, & Qin, 2012), and the most popular measures include: (a) the Interpersonal Reactivity Index (IRI; Davis, 1980), containing four subscales, i.e. perspective taking (understanding others' thoughts and emotions), empathic concern (feeling warmth or sympathy for others), fantasy (the ability to put oneself in a fictional situation), and personal distress (a self-centred negative emotion elicited by affective states of others); (b) the Questionnaire Measure of Emotional Empathy (QMEE; Mehrabian & Epstein, 1972), a measure of emotional empathy containing seven subscales, i.e. susceptibility to emotional contagion, appreciation of the feelings of unfamiliar and distant others, extreme emotional responsiveness, tendency to be moved by others' positive emotional experiences, tendency to be moved by others' negative emotional experiences, sympathetic tendency, and willingness to be in contact with others who have problems; (c) the Empathy Quotient (EQ; Baron-Cohen & Wheelwright, 2004), containing three subscales, i.e. cognitive (perspective taking), emotional reactivity (an appropriate emotional response to others' mental state, such as emotion sharing and sympathy) and social skills, and (d) the Basic Empathy Scale (BES; Jolliffe & Farrington, 2006), containing two subscales, i.e. cognitive empathy (understanding others' emotions) and affective empathy

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(experiencing others' emotions). However, even though these measures are widely used, they have several critical limitations.

First, empathy is often confounded with other constructs in these measures. For affective empathy, the most common concept confounded with it is sympathy (e.g., in the IRI, QMEE and EQ), which is defined as "feeling concern or sorrow for another person's distress" (Clark, 2010). Both affective empathy and sympathy involve an emotional reaction to the perceived emotions of another, while sympathy is different from affective empathy in the following respects at least: (a) In the case of affective empathy, the affective reaction is the same emotion as experienced by the target person, whereas in sympathy this reaction may not necessarily be the same emotion (de Vignemont & Singer, 2006; Walter, 2012). (b) Affective empathy is expressed in response to a variety of emotions, regardless of the positivity or negativity of the emotion (Preston & de Waal, 2002). However, sympathy is a response to others' negative emotions (Wispé, 1986). (c) Not affective empathy but sympathy contains cognitive components, e.g., the evaluation of others' emotions. (d) Sympathy is deemed to be more strongly correlated with prosocial behavior and antisocial behavior than affective empathy is (Hanson, 2003; Walter, 2012). Another notable construct is personal distress, employed to reflect affective empathy in the IRI. Differing from affective empathy, however, personal distress is self-directed and can lead to social withdrawal (de Vignemont & Singer, 2006).

For cognitive empathy, the most common concept confounded with it is perspective taking. To be exact, cognitive empathy indicates the comprehension of others' emotions (affective perspective taking; Jolliffe & Farrington, 2006; Vossen et al., 2015; Walter, 2012), instead of the understanding of others' beliefs and intentions (cognitive perspective taking). However, the IRI and the EQ do not distinguish between affective perspective taking and cognitive perspective taking. According to the recent research, there are distinct brain mechanisms for these two forms of perspective taking (Kalbe et al., 2010; Shamay-Tsoory & Aharon-Peretz, 2007). Furthermore, affective perspective taking has been proven to bring out more of a helping tendency than cognitive perspective taking (Oswald, 2002). Consequently, it is inappropriate to use the global concept of perspective taking to represent cognitive empathy. Additionally, social skills (e.g., in the EQ) and the ability of imagining feeling and acting like fictitious characters (e.g., in the IRI) are also used to measure cognitive empathy, but actually, both of them are complex constructs, without tapping pure cognitive empathy.

Second, in a number of the existing measures measuring empathy, item wording is often ambiguous (Vossen et al., 2015). Items such as "My friend's unhappiness doesn't make me feel anything" from the BES are too ambiguous to reflect affective empathy. The phrase "feel anything" possibly indicates any kind of emotions (e.g., schadenfreude), not necessarily unhappiness (affective empathy). Other items like "If I see a stranger in a group, I think it is up to them to make an effort to join in" from the EQ go so far as to seem to be irrelevant for the measurement of empathy.

Finally, there are no existing short version measures assessing the two components of empathy (affective and cognitive empathy) synchronously. The widely used measures, such as the IRI (28 items), the QMEE (33 items), the BES (20 items) and the EQ (60 items), are comprised of at least 20 items, which leads to inconvenience for large-scale studies.

The shortcomings mentioned above, especially the problem of conceptual confounding, might reduce the applied value of existing measures of empathy. In many studies, it is not clear if it is sympathy, empathy, or a mixture of sympathy and empathy that is being referred to when the term "empathy" is mentioned (Jolliffe & Farrington, 2006). If researchers individually use measures having dissimilar definitions of empathy in their studies, it is no wonder that contradictory findings appear in this area of research.

1.2. Unsatisfactory application of the commonly used empathy measures in the Chinese population

Currently, the use of common measures of empathy in Chinese samples has been problematic due to unsatisfactory reliability and validity. For instance, the reliability of the Chinese version of the IRI was <0.60 in quite a few studies (e.g., Rong, Sun, Huang, & Cai, 2010; Zhang, Dong, & Wang, 2010); a wording effect due to negatively worded items that required reverse coding was found in the Chinese version of the BES, i.e. the two-factor model with the method factor of negatively-worded items fitted better than the two-factor model excluding any method factors (Li, Lv, Liu, & Zhong, 2011); in another case, 11 factors were extracted in the Chinese version of the EQ, but the original is three-dimensional (Yang, Xiao, Qian, Mo, & Zhou, 2013).

1.3. Current study

In order to ensure the validity of research on empathy in China, it is essential to develop or import an improved measure of empathy with satisfactory psychometric properties in the Chinese context.

The Adolescent Measure of Empathy and Sympathy (AMES) developed by Vossen et al. (2015) is a new measure with three dimensions (i.e. cognitive empathy, affective empathy and sympathy) used to assess empathy and sympathy. It showed good reliability and validity in a sample of Dutch adolescents (aged from 10 to 15 years old). On the following grounds, the first aim of this study was to translate and validate the AMES in the context of Chinese culture: (a) The AMES adopted the widely accepted two-factor structure of empathy, and the definitions of cognitive empathy and affective empathy in the AMES conformed to the recent research findings. This approach would be beneficial to reducing the problems concerning conceptual confusion, and enhancing accuracy in the assessment of empathy. (b) Apart from empathy, sympathy was effectively evaluated as an individual dimension in the AMES. This approach would be helpful for researchers to control the interference from sympathy when investigating the relationships between empathy and other variables. (c) The AMES avoided the unclear wording seen in other measures, ensuring that the meaning of each item was univocal. (d) Compared with other measures, the AMES is sufficiently brief, with 12 items altogether, and only 4 items per dimension. Thus, it would be fit for large-scale studies. (e) The AMES has not been validated in communities with diverse ages and cultures, especially Eastern cultures.

Notably, Vossen et al. (2015) deemed the AMES was not only suitable for adolescents due to its unambiguous but not childish wording, and recommended using this measure in older groups, which is important for the wide dissemination of use of this measure. Hence, this study selected a student sample from 16 to 34 years old. Based on this, the AMES was called as the Measure of Empathy and Sympathy (MES) in the following text, without the prefix "Adolescents", to avoid the counterintuitive feeling when using this measure in non-adolescent groups.

Our second aim was to find an adequate scoring method for the MES. Is it statistically appropriate to use total score, sum of the two empathy subscales, any separate subscale score or both of them? Vossen's research did not clarify this. We were especially concerned about whether the total MES score makes sense statistically. This is a critical issue because Vossen et al. (2015) built measure in a special way. They viewed sympathy and empathy as theoretically different concepts, but included all of them in a measure. This construct would suffer from a hidden trouble: measure users who are unfamiliar with the MES or who identify sympathy as a part of empathy maybe accept and use the total MES score automatically when there is no special instruction, but this is against the measure developers' original intention. Our study would offer readers clear information on how to use the MES from statistical perspective.