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Measuring Empathy in a German Youth Prison: A Validation of the German Version of the Basic Empathy Scale (BES) in a Sample of Incarcerated Juvenile Offenders

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ABSTRACT

Lack of empathy is related to aggression, delinquency, and criminal offense recidivism. The present study examined construct validity and reliability of the German version of the Basic Empathy Scale (BES) in a sample of 94 detained German male juvenile offenders (aged 14–26). A confirmatory factor analysis with a two-factor model of affective and cognitive empathy showed a good fit to the data. The factor structure of the original 20-item scale, however, could not be fully replicated in the German juvenile prison sample. Therefore, the scale was reduced to 12 items. Cronbach's alpha reliability coefficients were good for both affective and cognitive empathy. Concurrent validity of the BES was demonstrated only for cognitive empathy, which was significantly associated with callous-unemotional traits. Although results are promising, a replication study is needed to test concurrent, convergent, divergent, and predictive validity of the German version of the BES as well as test–retest reliability.

KEYWORDS

Basic Empathy Scale (BES); delinquency; Germany; validation study

While there is a decrease in the number of incarcerated adolescents, the severity of their offenses remains a challenge for present-day society (Blumstein, 2002; Centers for Disease Control [CDC], 2013; European Commission, 2014; Stelly & Thomas, 2013). Young delinquents (especially the group showing severe offenses) often do not feel emotions of shame and guilt about their delinquent behavior (Raine, 2013; Schalkwijk, Stams, Stegge, Dekker, & Peen, in press), and have been shown to lack empathy (Jolliffe & Farrington, 2004; Van Langen, Wissink, Van Vugt, Van der Stouwe, & Stams, 2014). Empathy, “the ability to understand and share another’s emotional state and context” (Cohen & Strayer, 1996), is an important social competency (Davis, 1994; De Waal, 2009). For instance, Eisenberg and Strayer (1987), even as Jolliffe and Farrington (2006), showed that

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empathy was positively associated with prosocial behavior. Higher levels of empathy have been shown to be related to less aggression and disruptive behavior and lower incidence of conduct disorder (Cohen & Strayer, 1996; De Wied, Goudena, & Matthys, 2005; Miller & Eisenberg, 1988).

Deficits in empathy have shown to be related to aggression, low fear conditioning (Popma & Raine, 2006), low impulse control, selfishness (for an overview, see Hosser & Beckurts, 2005), and callous-unemotional (CU) traits (Hare, 2013; Munoz, Qualter, & Padgett, 2011; Raine, 2013; Skeem, Polaschek, Patrick, & Lilienfeld, 2011). Individuals characterized by CU-traits are cold, callous, and lack moral emotions, such as regret, shame, remorse, and empathy (Frick, 1995; Van der Helm, Stams, Van der Stel, Van Langen, & Van Der Laan, 2012) and engage in more severe offenses (Frick, Ray, Thornton, & Kahn, 2013). Previous research has shown that youth high on CU traits are able to understand (cognitive empathy), but cannot experience (affective empathy), the feelings of others (Dadds et al., 2009). A vast body of research has demonstrated that lack of empathy is related to (re) offending (see the meta-analysis by Van Langen, Wissink, Van Vugt, Van der Stouwe, & Stams, 2014). Therefore, empathy in delinquent youth is an important factor to consider in forensic youth care (Van der Helm et al., 2012).

Based on the theory of Cohen and Strayer (1996), empathy is defined as a bidimensional construct and consists of “affective traits” (the capacity to experience the emotions of another; Bryant, 1982) and “cognitive abilities” (the capacity to comprehend the emotions of another; Hogan, 1969). This bidimensional model of cognitive and affective empathy was supported by distinctive relations between cognitive and affective empathy and criminal offenses in meta-analyses by Jolliffe and Farrington (2004) and Van Langen, Wissink, Van Vugt, Van der Stouwe, & Stams (2014). In their quantitative reviews, cognitive empathy was more strongly related to criminal offenses compared to affective empathy. In line with their meta-analytic findings, Jolliffe and Farrington (2006) developed an assessment tool to examine both affective and cognitive empathy in adolescents: the Basic Empathy Scale (BES).

Development of the basic empathy scale

To date, several self-report measures have been developed to investigate empathy (Davis, 1980; Hogan, 1969; Mehrabian & Epstein, 1972; Zhou, Valiente, Eisenberg, Lopez, & Snyder, 2003). Jolliffe and Farrington developed the Basic Empathy Scale to overcome several psychometric shortcomings of the existing measures. In the development of the original English BES, 40 items measuring empathy were administered to 363 adolescent high school students. Explorative factor analysis yielded a two-factor solution

(20 items remaining) with cognitive and affective empathy, which was replicated in a confirmatory factor analysis (Jolliffe & Farrington, 2006).

Validity of the original BES was supported by significant relations between empathy and prosocial behavior, intelligence (for females only), extraversion (cognitive empathy only), neuroticism (affective empathy only), agreeableness, conscientiousness (for males only), parental supervision, socioeconomic status, and age (Jolliffe & Farrington, 2006). In the Dutch version, a relation was found between cognitive and affective empathy and prosocial behavior (Van Langen, Stams, Van Vugt, Wissink, & Asscher, 2014). Finally, divergent validity of the original BES was demonstrated in the nonrelation with socially desirable responding (Jolliffe & Farrington, 2006).

Cross-cultural measurement of empathy

Although the BES has been shown to be a valid and reliable instrument in different countries, such as the Netherlands (Van Langen, Wissink, Stams, Asscher, & Hovee, 2015), Spain (Salas-Wright, Olate, & Vaughn, 2012), China (Geng, Xia, & Qin, 2012), Italy (Albiero, Matricardi, Speltri, & Toso, 2009), and France (Ambrosio, Olivier, Didon, & Besche, 2009), there is no valid and reliable instrument to investigate cognitive and affective empathy in delinquent youth in Germany. While cross-cultural studies support the validity and reliability of the BES, only a few studies have validated the BES among juvenile offenders. Salas-Wright, Olate, and Vaughn (2013) validated the Spanish BES in a sample of high-risk youths involved in gangs in the area of San Salvador, which resulted in an adapted 7-item BES scale, assessing both cognitive and affective empathy. Pechorro, Ray, Salas-Wright, Maroco, and Goncalves (2015) validated the adapted 7-item BES in a sample of incarcerated juveniles in Portugal. Van Langen et al. (2015) validated the Dutch version of the BES in a mixed sample of juvenile offenders and nondelinquent adolescents, resulting in a 19-item BES, although 7 items showed rather low factor loadings in the delinquent sample. It should be noted that the Dutch language bears much resemblance to the German.

Current study

We conducted a validation study of the BES to examine validity and reliability of the translated German BES in 94 young incarcerated delinquents in a German youth prison. Construct validity was investigated by using a confirmatory factor analysis and reliability was examined by calculating Cronbach's alpha. Given that low empathy is a core component of CU traits, a negative correlation between empathy (BES) and callous and unemotional

traits (ICU; Frick, 2003) was considered indicative of concurrent validity (Kimonis et al., 2008).

Method

Participants

A sample of 94 male adolescent and young adult prisoners, randomly selected from the prison population of a German youth prison, completed the German version of the BES. The response rate was 84%. Nonresponse was due to lack of trust in anonymity of research outcomes and compulsory court attendance during research. Juveniles in a detention awaiting trial were not able to take part due to safety regulations. All participants were aged between 14 and 26 years ($M = 20.33$; $SD = 2.07$) and detained for severe crimes (burglary, armed street-robbery, assault, extreme violence, murder). Mean detention time at this prison was 9 months.

After ethical approval had been obtained from the institutional review board of the University of Applied Sciences Leiden, all adolescents voluntarily agreed to participate in this study, signed an informed consent declaration, and were told that their answers would be treated confidentially and anonymously and would be accessed only by the researchers.

Instruments

Basic empathy scale (BES)

The BES was originally developed by Jolliffe and Farrington (2006), and assesses two components of empathy, *cognitive* and *affective* empathy. The original BES consists of 20 items, based on the four human basic emotions: *anger*, *fear*, *sadness*, and *joy* (Eckman, 2004), with answering categories ranging on a 5-point Likert scale from 1 = *I don't agree* to 5 = *I fully agree*. In the present study, the validated English version (Jolliffe & Farrington, 2006) of the BES was translated into German. The adapted German version was then back-translated into English by two separate researchers (Table 1).

Inventory of callous unemotional traits (ICU)

The ICU was developed by Frick (2003), and is a 24-item valid and reliable self-report inventory using a 4-point Likert scale, ranging from 0 = *not at all true* to 3 = *definitely true*, to investigate callous and unemotional traits in adolescent offenders. The content of the ICU was based on the Antisocial Process Screening Device (APSD; Munoz & Frick, 2007), which has been shown to designate a distinct and important group of antisocial youth who show a number of characteristics associated with the construct of psychopathy. In the present study, the German version (Essau, Sasagawa, & Frick,

Table 1. Standardized regression weights (Group Number 1—Default Model).

Item No.	Scale/Item	Scale/Item German	Standardized estimates
	Cognitive empathy	Kognitive Empathie	
3	I can understand my friend's happiness when she/he does well at something.	Ich verstehe, dass meine Freunde sich freuen, wenn sie etwas gut gemacht haben.	0.649
9	When someone is feeling "down" I can usually understand how they feel.	Wenn jemand sich schlecht/"down" fühlt, verstehe ich wie er/sie sich fühlt.	0.743
10	I can usually work out when my friends are scared.	Ich kann sehen, wann meine Freunde Angst haben.	0.459
12	I can often understand how people are feeling even before they tell me.	Ich verstehe oft schon wie Menschen sich fühlen, bevor sie mir etwas darüber erzählt haben.	0.510
14	I can usually work out when people are cheerful.	Ich kann meistens sehen/ich merke gut, wann andere Menschen glücklich sind.	0.542
16	I can usually realize quickly when a friend is angry.	Ich merke schnell, wenn ein Freund/eine Freundin böse ist.	0.613
	Affective empathy	Affektive Empathie	
2	After being with a friend who is sad about something, I usually feel sad.	Wenn ich einen Freund besucht habe, der traurig ist, fühle ich mich meistens anschließend selber auch traurig.	0.505
5	I get caught up in other people's feelings easily.	Ich lasse mich leicht durch die Gefühle anderer beeinflussen.	0.329
8	Other people's feelings don't bother me at all.	Die Gefühle anderer Menschen berühren/interessieren mich überhaupt nicht.	0.386
11	I often become sad when watching sad things on TV or in films.	Ich werde traurig, wenn ich erbärmliche/schreckliche Dinge im TV oder in einem Film sehe.	0.418
17	I often get swept up in my friend's feelings.	Ich kann mich in die Gefühle meiner Freunde versetzen	0.874
18	My friend's unhappiness doesn't make me feel anything.	Wenn meine Freunde unglücklich sind, interessiert mich das nicht.	0.400

Note. Intercepts: (Group number 1—Default model)

2006) of the self-report questionnaire was used for the group of young delinquent participants to investigate concurrent validity of the Basic Empathy Scale. The scale is divided into three subscales: *callousness* (e.g., "the feelings of others are unimportant to me"; $\alpha = .70$), *unemotional* (e.g., "I hide my feelings from others"; $\alpha = .64$), and *uncaring* (e.g., "I try not to hurt others' feelings"; $\alpha = .73$; Kimonis et al., 2008). These subscales form a higher order callous-unemotional dimension ($\alpha = 0.77$). In the present study the higher-order ICU factor was used, showing good reliability ($\alpha = .81$).

Statistical analysis

Construct validity of the German translation was examined by means of confirmatory factor analysis in Mplus (version 6.11). A bidimensional model (*affective* and *cognitive empathy*) was specified in which each item loaded on only one factor. For a valid model, cutoff values of CFI > 0.90, TLI > 0.90, and RMSEA < 0.05 were

Table 2. Descriptive statistics (M & SD) and correlations between ICU and BES.

	M	SD	Cognitive empathy	Affective empathy
Cognitive empathy	3.47	.77		
Affective empathy	3.13	.73	.534**	
ICU	1.39	.32	.263*	.050

Note. * $p < .05$; ** $p < .01$.

required (Kline, 2005). Calculations of Cronbach's alpha and correlational analyses were conducted in SPSS 21. Concurrent validity was investigated by examining correlations between both concepts of empathy and the presence of CU traits. Table 2 shows the descriptive statistics and correlations of the BES and the ICU.

Results

Construct validity of the BES

A confirmatory factor analysis of the translated 20 items was performed. The initial model did not show a good fit to the data: RMSEA = .101; CFI = .753; TLI = .619. The model that best fitted the data consisted of two dimensions: *affective empathy* (6 items), and *cognitive empathy* (6 items), and a significant association between cognitive and affective empathy. This model showed a good fit to the data: RMSEA = .038; CFI = .977; TLI = .969. Cronbach's alpha was acceptable for both dimensions: affective empathy ($\alpha = .71$), and cognitive empathy ($\alpha = .78$). The correlation between the two BES subscales was significant ($r = .534$, $p = .000$).

Concurrent validity

To investigate concurrent validity, we conducted a correlation analysis between the two dimensions of the BES and the ICU. Only the correlation between cognitive empathy and CU traits was significant ($r = -.263$, $p = .034$; see Table 2).

Discussion

This study was performed to test the validity and reliability of the translated German version of the Basic Empathy Scale (BES), a measurement instrument that can be used to assess empathy, also in incarcerated juvenile offenders. Both confirmatory factor analysis and reliability analysis were performed, which yielded a valid and reliable 12-item bidimensional (cognitive and affective) German version of the BES. Furthermore, concurrent validity was demonstrated in a significant and negative correlation between cognitive empathy and callous-unemotional traits, which is in line with the meta-analysis by Stams et al. (2006), who demonstrated that juvenile

delinquents with psychopathic traits showed a lack of moral cognition. In line with previous research (Dadds et al., 2009; Munoz, Qualter, & Padget, 2011; Pechorro et al., 2015) a significant correlation between affective empathy and CU traits was also expected, but could not be confirmed in the present study, possibly because juvenile delinquents tend to hide their emotions for fear of being considered as weak by their peers (Van der Helm et al., 2012). We found partial evidence for concurrent validity of the German version of the BES, that is, only for cognitive empathy.

It is important to notice that the present validation study was conducted in a sample of male incarcerated juvenile offenders with different levels of education, various ethical backgrounds, and diverse types of offending. To date, most validation studies of the BES have been conducted in more homogeneous samples of nondelinquent youth. Salas-Wright et al. (2013) and Pechorro et al. (2015) examined validity of the BES in samples of Spanish and Portuguese juvenile delinquents. Interestingly, the items of the Spanish and Portuguese 7-item adapted version of the BES were preserved in the German version.

The Dutch validation study was conducted in a mixed sample of incarcerated juvenile offenders and adolescents from the general population, and resulted in 19 items, with 7 items showing rather low factor loadings in the delinquent participants (5 items < .30, 2 items < .15). Item 6, "I find it hard to know when my friends are frightened," was removed. This item was also removed from the German version and refers to strong and negative emotions, such as sadness, fright, and anxiety (see also removed item 4, "I get frightened when I watch characters in a really scary movie," item 13, "Seeing a person who has been angered has no effect on my feelings," and item 15, "I tend to feel scared when I am with friends who are afraid," showing as well low factor loadings in the Dutch sample). Delinquent youth may have learned to mask their real attitudes when dealing with strong and negative emotions (Geng et al., 2012; Van der Helm & Stams, 2012).

Three negatively phrased items (item 1, "My friend's emotions don't affect me much," item 7, "I don't become sad when I see other people crying," and item 19, "I am not usually aware of my friend's feelings") were also removed from the German version. This is in line with results from the Spanish and Portuguese validation studies (Pechorro et al., 2015; Salas-Wright et al., 2012). In the Dutch validation study, the negatively phrased items also proved to have relatively low factor loadings, but were not removed (Van Langen et al., 2015). Possibly those negatively phrased items tend to be misunderstood by the participants. It has been shown that misinterpretation of negatively phrased items may occur in individuals with low educational levels (Benson & Wilcox, 1981; Carlsson, Merlo, Lindström, Östergen, & Lithman, 2006) and individuals with intellectual disabilities (Cordery & Sevastos, 1993; Wehmeyer & Garner, 2003). One item (number 4, "I get frightened when I watch characters in a really scary movie"), designed to measure affective empathy in response to viewing scary movies, was

also removed. This item may be perceived as unrealistic compared to the real-world violence that these juveniles were exposed to in their lives (Salas-Wright et al., 2012). In the Dutch juvenile sample, the factor loading of item 4 was also low. Despite losing 7 items in the German version of the BES, the remaining 12 items still represent the four human basic emotions: anger, fear, sadness, and joy (Ekman, 2004).

Limitations of this study were related to characteristics of the sample and to limited sample size ($N = 94$). The sample consisted of adolescent male prisoners and was conducted in only one institution, which could hamper the generalizability of the findings. Furthermore, no other validated empathy instrument was used to assess convergent validity. No divergent validity was tested, for instance by examining associations between empathy and social desirability, or predictive validity, by investigating associations between empathy and criminal offense recidivism. Finally, we did not establish test-retest reliability. Results of this study should therefore be considered as preliminary.

The present study is the first to investigate the psychometric properties of the BES in a sample of incarcerated German juvenile offenders. Although only 12 items of the original 20-item version were retained, the adapted BES is still considered to be a promising instrument to investigate two dimensions of empathy (affective and cognitive) in the specific population of young detained German offenders. However, more research is needed to establish validity and reliability of the BES in a larger delinquent sample and adolescents with a mild intellectual disability, who make up a sizeable portion in (youth) prisons (Kaal, Negenman, Roeleveld, & Embregts, 2011). Moreover, divergent, convergent, and predictive validity should be tested as well as test-retest reliability. We conclude that the German version of the BES could be a useful instrument for researchers and clinicians. It can be used to monitor individual treatment outcomes or evaluate the effectiveness of treatment programs targeting empathy during detention in Germany.

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