KRZYSZTOF STANISŁAWSKI*
Institute of Psychology
Cardinal Stefan Wyszyński University in Warsaw

WŁODZIMIERZ STRUS
Institute of Psychology
Cardinal Stefan Wyszyński University in Warsaw

JAN CIECIUCH
Institute of Psychology
Cardinal Stefan Wyszyński University in Warsaw

THE POLISH ADAPTATION OF LOCKE'S CSIE QUESTIONNAIRE MEASURING INTERPERSONAL SELF-EFFICACY AND ITS PERSONALITY CORRELATES[1]

Abstract

Celem artykułu jest prezentacja polskiej wersji kwestionariusza do pomiaru poczucia skuteczności interpersonalnej – *Circumplex Scales for Interpersonal Efficacy*; CSIE Locke'a – oraz poznanie osobowościowych uwarunkowań konstruktów koła interpersonalnego i szerokości repertuaru zachowań interpersonalnych. CSIE są oparte na modelu koła interpersonalnego Wigginsa (Wiggins, Trapnell, Phillips, 1988) i mierzą 8 aspektów interpersonalnego poczucia skuteczności: Dominujący, Dominujący i Zdystansowany, Zdystansowany, Ustępliwy i Zdystansowany, Ustępliwy, Ustępliwy i Życzliwy, Życzliwy, Dominujący i Życzliwy. Badanie przeprowadzono na próbie $N = 306$. Rzetelność jednej skali (FG – Ustępliwy i Zdystansowany) jest niska, rzetelności pozostałych skal są zadowalające. Struktura wewnętrzna i trafność teoretyczna narzędzia są satysfakcjonujące. Stwierdzono, że interpersonalne poczucie skuteczności jest najsilniej powiązane z metacechą Beta / Plastyczność, co poddano dyskusji w kontekście Cybernetic Big Five Theory; CB5T DeYounga (2015). Jako wskaźniki szerokości repertuaru zachowań interpersonalnych zastosowano elastyczność interpersonalną (wzniesienie profilu) oraz sztywność interpersonalną (długość wektora).

The article aims to present the Polish version of Locke's Circumplex Scales of Interpersonal Efficacy (CSIE) as well as to elucidate the personality correlates of interpersonal circumplex constructs and the scope of the repertoire of interpersonal behaviours. CSIE is based on Wiggins' interpersonal circumplex model (Wiggins, Trapnell, & Phillips, 1988) and enables the measurement of eight facets of interpersonal self-efficacy: Dominant, Dominant & Distant, Distant, Yielding & Distant, Yielding, Yielding & Friendly, Friendly, Dominant

[1] This article was originally published in Polish as Stanisławski, K., Strus, W., Cieciuch, J. (2017). Polska adaptacja kwestionariusza CSIE Locke'a do pomiaru poczucia skuteczności interpersonalnej i jego osobowościowe korelaty. Studia Psychologica, 17(2), 89-115. The translation of the article into English was financed by the Ministry of Science and Higher Education of the Republic of Poland as part of the activities promoting science – Decision No. 676/P-DUN/2019 of 2 April 2019. Translation made by GROY Translations. * Corresponding author: stanislawski.kris@gmail.com

& Friendly. The research was conducted on a sample of $N = 306$. The reliability of one scale (FG – Yielding and Distant) was low, and the reliabilities of the remaining scales were acceptable. The internal structure and construct validity of the tool were satisfactory. Interpersonal self-efficacy was found to be most strongly associated with the Beta / Plasticity metatrait. This fact was discussed in the context of DeYoung's (2015) Cybernetic Big Five Theory (CB5T). Two measures were used as indicators of the scope of the interpersonal repertoire: interpersonal flexibility (profile elevation) and interpersonal rigidity (vector length). The flexibility of interpersonal self-efficacy and interpersonal traits were associated with extraversion, agreeableness, emotional stability, intellect, Alpha / Stability, Beta / Plasticity, and General Factor of Personality. In turn, the rigidity of interpersonal values and traits is correlated with extraversion, agreeableness, emotional stability, intellect, Alpha / Stability, Beta / Plasticity, and General Factor of Personality.

Keywords: CSIE questionnaire, interpersonal self-efficacy, circumplex model, interpersonal flexibility, interpersonal rigidity

1. Interpersonal Circumplex Model

The *interpersonal circumplex* (IPC) is commonly used to describe various psychological characteristics concerning human social functioning: interpersonal constructs understood as traits (Leary, 1957; Wiggins et al, 1988), broad interpersonal problems (Alden, Wiggins, & Pincus, 1990; Horowitz, Rosenberg, Baer, Ureno, & Villasenor, 1988), social goals (Ojanen, Gronroos, & Salmivalli, 2005), *interpersonal values* (Locke, 2000) and an *interpersonal self-efficacy* (Locke & Sadler, 2007). IPC arranges the proposed constructs in two independent dimensions. A vertical dimension is *status*, which in the literature is also called *agency*, *dominance* or *power*, whereas a horizontal one is *love*, in the literature also called *communion*, *friendliness* or *warmth* (Carson, 1969; Foa, 1961; Kiesler, 1983; Leary, 1957). IPC constructs are equally distant from the point of intersection of two axes and arranged in a circumplex structure; distances between pairs of adjacent variables are equal.

The precursor of IPC is Leary (1957), who ordered 16 constructs describing interpersonal behaviours in a circumplex structure and assigned one letter (from A to P) to each of them. The letters were arranged counterclockwise, with A at the very top (Leary, 1957). Wiggins (1979; Wiggins & Broughton, 1991) combined the adjacent variables and obtained eight dispositions (each of them is *an octant*), thus constructing his own version of IPC. According to this, dispositions are understood as traits, and each octant is marked with two letters. As an example, Wiggins and co-authors (Wiggins et al., 1988) state that the B (arrogant) and C (calculating) constructs together constitute the BC octant (arrogant–calculating). In the currently most popular Wiggins variant, IPC measurement is based on Interpersonal Adjective Scales (IAS) constructed by him, recently adapted to Polish conditions by Sękowski and Klinkosz (2016; Klinkosz, 2004).

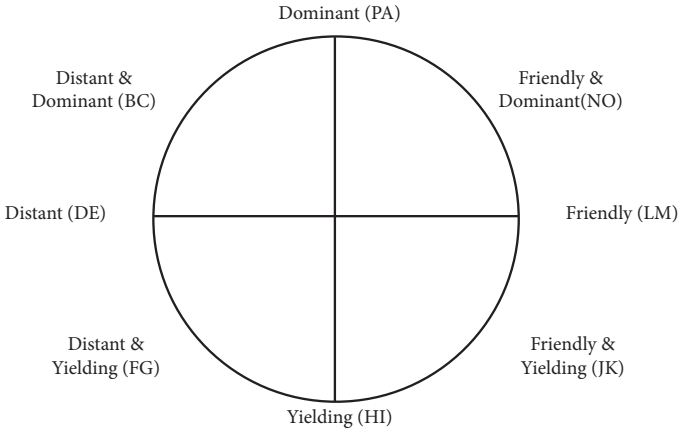
2. Interpersonal Self-efficacy and Interpersonal Values

Locke proposed his own interpretation of IPC as well (2000; Locke & Sadler, 2007). The above-mentioned author presented the possibility of integrating the interpersonal approach (Alden et al., 1990; Wiggins, 1979; Wiggins & Broughton, 1991) with a social-

cognitive approach. A leading representative of this approach, Bandura (1993, 2001, 2006), claims that "efficacy beliefs are the foundation of human agency" (Bandura, 2001, p. 10). He believes that "perceived self-efficacy refers to people's beliefs about how to achieve the goals set" (Bandura, 2006). According to Bandura (1993), self-efficacy is important in four types of processes: cognitive, motivational, affective and selection. A high self-efficacy in one sphere is associated with a high level of motivation, undertaking challenges, involvement in a certain activity and a sense of control of the course of events.

Locke, following the concept of Bandura's perceived self-efficacy, introduced the concept of interpersonal self-efficacy, which is defined as a subject's belief in their own abilities to perform certain types of interpersonal actions (Locke & Sadler, 2007). Locke and Sadler (2007) distinguished eight types of interpersonal self-efficacy: Dominant, Dominant & Distant, Distant, Yielding & Distant, Yielding, Yielding & Friendly, Friendly, Dominant & Friendly. The interpretation of IPC, presented by Locke and Sadler (2007), is shown in Figure 1.

Figure 1. IPC in Locke's and Sadler's interpretation (2007).



To explore interpersonal constructs in more detail, Locke (2000) also proposed the concept of *interpersonal values*, which, in his opinion, are preferences for certain results of interpersonal actions or behaviour. Locke (2000) identified the following types of interpersonal values: Agentic, Agentic and Separate, Separate, Submissive and Separate, Submissive, Submissive and Communal, Communal, Agentic and Communal. Table 1 shows the comparison of constructs (octants) according to Wiggins and Lockes proposal. It is worth noting that there is little research on the relationships between these various types of interpersonal constructs (Locke & Sadler, 2007).

For measuring interpersonal values, Locke (2000) constructed Circumplex Scales of Interpersonal Values (CSIV). Meanwhile, interpersonal self-efficacy was operationalised with the Circumplex Scales of Interpersonal Efficacy (CSIE; Locke & Sadler, 2007).

Table 1
Octants by Wiggins and Locke and examples of CSIE items

Other constructs from the interpersonal circumplex model			Circumplex model of interpersonal efficacy	
Symbol	Traits (Wiggins, Trapnell, & Phillips, 1988)	Values (Locke, 2000)	Self-efficacy (Locke & Sadler, 2007)	Examples of CSIE items
PA	Assured–Dominant	*Agentic*	*Dominant*	...I can be assertive.
BC	Arrogant–Calculating	*Agentic & Separate*	*Dominant & Distant*	... I can keep the upper hand
DE	Cold–Hearted	*Separate*	*Distant*	... I can be tough.
FG	Aloof–Introverted	*Submissive & Separate*	*Yielding & Distant*	... I can hide my thoughts and feelings
HI	Unassured–Submissive	*Submissive*	*Yielding*	... I can avoid getting into arguments
JK	Unassuming–Ingenuous	*Submissive & Communal*	*Yielding & Friendly*	...I can follow the rules
LM	Warm–Agreeable	*Communal*	*Friendly*	... I can fit in
NO	Gregarious–Extraverted	*Agentic & Communal*	*Dominant & Friendly*	... I can express myself openly

3. IPC and Big Five Relationships

Many studies have been conducted on the relationships between interpersonal circumplex construct and Big Five dimensions (de Raad, 1995; DeYoung, Weisberg, Quilty, & Peterson, 2013; Trapnell & Wiggins, 1990). They focused on one type of constructs, i.e., interpersonal traits, and it was observed that two traits of the Big Five, namely extraversion and agreeableness, showed systematic and quite strong connections with IPC dimensions. McCrae and Costa (1989), and de Raad (1995) observed positive correlations between the status/agency dimension and extraversion, negative ones between the status/agency dimension and agreeableness, and positive dependencies between love/communion and extraversion/agreeableness. The studies by Trapnell and Wiggins (1990), as well as DeYoung and co-authors (DeYoung et al., 2013), also point to strong links between the dimension of status/agency and extraversion and between the dimension of love/communion and agreeableness. Furthermore, DeYoung et al. (2013) observed that facets (subdimensions; cf. Strus & Cieciuch, 2014) of extraversion and agreeableness corresponded to IPC octants. In general, the above results indicate that the dimensions of status/agency, love/communion as well as extraversion and agreeableness are the rotated dimensions of the same interpersonal space described by IPC.

It is worth noting that new studies concerning personality structure indicate that there are also two metatraits above the Big Five traits: Alpha (called Stability) and Beta (in other words: Plasticity). Alpha / Stability corresponds to the covariance of agreeableness, conscientiousness and emotional stability (opposite pole of neuroticism), while Beta / Plasticity is associated with a constellation of extraversion and openness to experience (DeYoung, Peterson, & Higgins, 2002; Digman, 1997). Alpha reflects stability at

emotional, social and motivational levels, while Beta reflects cognitive and behavioural flexibility as well as the tendency to explore and engage in new experiences (DeYoung et al., 2002). Finally, some studies indicate that at the very top of the personality traits structure, above two metatraits, the General Factor of Personality (GFP) is located (Musek, 2007). GFP corresponds to the most adaptive configurations of personality traits, i.e., high extraversion, openness to experience, agreeableness, conscientiousness and low neuroticism (Musek, 2007; Rushton & Irwing, 2011). Strus, Cieciuch, and Rowiński (2014) reinterpreted GFP as a Gamma/Integration metatrait. They considered it to be a combination of high Alpha and high Beta. The research by Strus and Cieciuch (2017) showed that the status/agency dimension was linked to Beta/Plasticity, and love/communion – to Alpha/Stability. Moreover, it seems likely that metatraits, especially Beta/Plasticity, may be associated with a broader repertoire of interpersonal behaviours.

Some research suggests that this broad repertoire of various available behaviours in social situations enables the prediction of higher self-esteem (Paulhus & Martin, 1988) and lower interpersonal distress (Tracey, 2005; Tracey & Rohlfing, 2010). Some authors report a reverse dependence, i.e., a broader repertoire of interpersonal behaviours is supposed to be associated with poorer adaptation of behaviours to the requirements of a social situation (Erickson, Newman, & Pincus, 2009). It seems that learning about the relationship between the breadth of the repertoire of interpersonal behaviours and metatraits may facilitate placing the former construct in a broader theoretical perspective, which should enable a more complete interpretation of the prediction of.

4. The Breadth of the Repertoire of Interpersonal Behaviours

Research on the repertoire of available interpersonal behaviours (Locke & Adamic, 2012; Tracey, 2005; Tracey & Rohlfing, 2010) refers to the analysis method of *circular profiles* proposed by Gurtman (Gurtman & Balakrishnan, 1998). The circular profile reflects the distribution of scores among particular respondents and is described using *angular displacement*, *elevation*, and *vector length* (Gurtman & Balakrishnan, 1998). The vector length and elevation will be discussed for the purpose of this research.

To calculate the vector length, vector values of the status/agency and love/communion are used, obtained from the following formulas:

$$\text{Agency} = \Sigma W_i \sin\theta_i \quad (1)$$

$$\text{Communion} = \Sigma W_i \cos\theta_i \quad (2)$$

where W_i is the raw score and θ_i is the angular position of i-thoctant (Gurtman, 2011; Locke & Sadler, 2007). The communion is represented by 0° position, whereas agency – 90°.

$$\text{vector length} = (\text{vector of agency}^2 + \text{vector of communion}^2)^{1/2} \quad (3)$$

In the literature, the long vector is interpreted as a pattern of simple interpersonal behaviours – it should be represented by high scores in one IPC area and low scores in others (Tracey & Rohlfing, 2010). A long vector is treated as an indicator of *interpersonal rigidity* (O'Connor & Dyce, 2001; Tracey, 2005; Tracey & Rohlfing, 2010). A short

vector means a similar tendency to different interpersonal behaviours (e.g., low scores in various areas of the circumplex model or vice versa – high scores) and is interpreted as an indicator of a broader repertoire of interpersonal behaviours. A shorter vector is associated with more adequate interpersonal reactions (Tracey, 2005; Tracey & Rohlfing, 2010). However, a longer vector of interpersonal values correlates with less intense worries and a longer vector of interpersonal traits is associated with a lower sense of internal conflict (Locke & Adamic, 2012).

Another parameter of the circular profile is elevation – this is the mean of the scores obtained in all octants. The elevation may be interpreted as a responding style or an indicator of a general factor (Gurtman & Pincus, 2003). Locke and Adamic (2012) observed the relationships between profile elevation and solving of interpersonal dillemmas and suggest that the elevation reflects more than just a responding style. The above-mentioned authors revealed, that a higher elevation of the interpersonal self-efficacy profile is associated with less internal conflict.

There is no general consensus on the operationalisation of the repertoire breadth of interpersonal behaviours and interpersonal rigidity (cf. O'Connor & Dyce, 2001). As mentioned above, a short vector does not have to reflect the broad repertoire of interpersonal behaviours (i.e., it may reflect low scores in various IPC areas). It seems that the elevation may be an interesting operationalisation of the repertoire of available interpersonal behaviours. In this paper, as indicators of repertoire breadth of interpersonal behaviours, we propose the elevation of a circular profile and the vector length. Like some other authors (O'Connor & Dycey, 2001; Tracey, 2005), we interpret the vector length as an indicator of interpersonal rigidity, and elevation as an indicator of interpersonal flexibility. The comparison of the applied indicators concerning the repertoire breadth of interpersonal behaviours is presented in Table 2.

Table 2
Applied indicators of the repertoire breadth of interpersonal behaviours

	Interpersonal rigidity	Interpersonal flexibility
Indicator applied	Vector length	Circular profile elevation
Interpretation ofthe indicator	Longer vector – higher rigidity	Higher elevation –higher flexibility
Indicator calculation	Calculated on the basis of values of the vectors of agency and communion	Mean of all octants

5. Locke's Circumplex Scales of Interpersonal Efficacy (CSIE)

CSIE contains 32 items, four on each scale. The questionnaire shall be accompanied by the following instruction: "For each of the following behaviors, rate how sure you are that you can act that way with other people." An 11-point response scale was applied in CSIE, which is the preferred response scale for the measurement of self-efficacy (Bandura, 2006). The scope of responses ranges from 0 (*I am not at all confident that...*) to 10 (*I am absolutely confident that...*). An example of a test item: "When I am with

others, , 0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 I can express myself openly."

When testing the circumplex model the first two factors in the principal component analysis are expected to explain most of the variance and a similar part of it (Gurtman & Pincus, 2003). After the principal component analysis of CSIE scales, Locke and Sadler (2007) concluded that the first two factors explained 71.5% of the variance. The authors studied the circumplex structure using the RANDALL program (Tracey, 1997). As many as 257 out of 288 predictions were met and the model was well-fitted (CI = 0.78, $p < .001$; Locke & Sadler, 2007). Locke found satisfactory relationships between CSIE and Inventory of Interpersonal Problems (IIP; Horowitz et al., 1988) as well as Circumplex Scales of Interpersonal Values (CSIV; Locke & Sadler, 2007).

The CSIE questionnaire was used in the studies concerning interpersonal functioning of people with autism spectrum (Locke & Mitchell, 2016), interpersonal difficulties in people with anorexia (Ambwani, Berenson, Simms, Li, Corfield, & Treasure, 2016) and interpersonal complementarity (Locke & Sadler, 2007). According to the interpersonal complementarity model, dominant behaviours of one person causes another one to be submissive, where submissive behaviours incline to dominance, friendly behaviours incline to friendliness, and hostile ones to hostility (Kiesler, 1983). Locke and Sadler (2007) showed that the status/agency dimension at the level of self-efficacy allowed the level of dominance manifested during social interactions to be predicted. In turn, the similarity of partners in the love/communion dimension at the level of self-efficacy is associated with higher satisfaction of social interactions. Kammrath, McCarthy, Cortes, and Friesen (2015) applied CSIE to explain why people with low extroversion and high agreeableness exhibit low assertiveness. According to the authors, introverts have lower assertiveness than extraverts because they show lower assertive skills (PA octant – Dominant). On the other hand, agreeable people are less assertive than those with a low level of agreeableness because they have a higher level of non-assertive skills (HI octant – Yielding).

6. Development of the Polish Version of the CSIE

The procedure for CSIE adaptation was as follows: after obtaining consent from the author of the original version of the inventory for the elaboration of the Polish adaptation, the CSIE questionnaire was translated into Polish. Then, an independent English back translation was performed. The Polish version of the questionnaire was discussed with the author of the original version and accepted by him. The first version of the Polish adaptation of CSIE was prepared by Stanisławski and Cieciuch (Stanisławski, 2012) on a small sample ($N = 110$). It turned out that the reliability of some scales was low. The current research presents the second version of the tool adaptation. To prepare it, the items with the worst properties were modified in five scales: BC (Dominant and Distant), DE (Distant), HI (Yielding), JK (Yielding and Friendly), LM (Friendly). Also, alternative translations of the most problematic statement were added to the HI (Yielding) scale.

The article has two aims: (1) to present psychometric properties of the Polish version of the CSIE questionnaire and (2) to elucidate the personality correlates of the repertoire breadth of interpersonal behaviours. The reliability of the CSIE questionnaire was calculated using the Cronbach's α coefficient. Internal validity was tested using principal component analysis and the RANDALL randomization test.

Theoretical validity was determined by the analysis of the correlation between the octants of self-efficacy and interpersonal traits and values as well as social desirability, personality traits, metatraits and GFP. Next, personality correlates of profile elevation and vector length were investigated with the use of three different IPC interpretations, i.e., self-efficacy, personality traits and values. The following hypotheses were posed:

H1: The circumplex structure, which describes the relationship between scales, will be well-fitted to the data.

H2: The dimension of status/agency of interpersonal self-efficacy will reveal a positive relationship between extraversion and Beta, while the dimension of love/communion will be positively correlated with agreeableness and Alpha.

H3: The octants of interpersonal self-efficacy will be most strongly associated with the corresponding octants of interpersonal traits and values.

H4: Interpersonal rigidity and flexibility will reveal relationships with personality traits, metatraits and GFP.

7. Method

Tools

Circumplex Scales of Interpersonal Values (CSIV). The tool contains 64 items (eight for each scale) which measure the preference of interpersonal values; they form eight scales. As mentioned above, the tool is an operationalisation of IPC applied to the value. Some of CSIV items come from the records of therapeutic sessions, whereas another part was inspired by questionnaires measuring interpersonal constructs (Locke, 2000). The respondents evaluate the value preference using a 5-point Likert scale, ranging from 0 (*not important to me*) to 4 (*extremely important to me*). An exemplary item: "When I am with him/her/them, it is... 0 – 1 – 2 – 3 – 4 ...that they respect what I have to say" (the statement attributed to NO octant – Agentic and Communal). The reliabilities of scales, obtained in the presented survey, are in the range of .64–.82.

International Personality Item Pool–Interpersonal Circumplex (IPIP-IPC). This tool enables us to measure interpersonal traits (Markey & Markey, 2009). It contains 32 items, four for each of the eight scales. The participants respond using the 5-point Likert scale that ranges from 1 (*very inaccurate*) to 5 (*very accurate*). In the present survey, for the five scales, Cronbach's α coefficients range from .60–.79. Three scales have reliabilities below .60; these include JK (Unassuming–Ingenuous) – .35; DE (Cold–Hearted) – .51 and HI (Unassured–Submissive) – .54. An exemplary statement of the questionnaire: "Feel comfortable around people" (NO octant item – Gregarious–Extraverted).

Measurement of social desirability from the Big Five Questionnaire-2 (BFQ-2). To estimate a bias of CSIE scales with a social desirability variable, two social desirability scales from the BFQ-2 (Caprara, Barbaranelli, Borgogni, & Vecchione, 2007) were used. These scales distinguish between moralistic bias and egoistic bias (Paulhus & John, 1998). The moralistic bias is the tendency to present oneself as a person who follows social norms, while the egoistic bias is the tendency to present oneself as a talented and popular person (Paulhus & John, 1998). Seven items measure the tendency for moralistic bias, and seven others measures – the intensity of egoistic bias. The participants respond using the 5-point Likert scale that ranges from 1 (*very inaccurate*) to 5 (*very accurate*). In the current study, Cronbach's α for the moralistic

bias scale is .80, for the egoistic bias scale – .82, for the overall score – .88.

IPIP-BFM-20 personality questionnaire. The tool contains 20 items which allow the measurement of Big Five traits (Topolewska, Skimina, Strus, Cieciuch, & Rowiński, 2014). It is an abbreviated version of the Big Five Markers from the IPIP containing 50 statements. It allows the measurement of five basic personality dimensions according to the lexical tradition: extraversion, agreeableness, conscientiousness, emotional stability and intellect. The respondents make their self-description using the 5-point Likert scale that ranges from 1 (*very inaccurate*) to 5 (*very accurate*). The Cronbach's α for the five scales ranged from .71–.83. Alpha / Stability and Beta / Plasticity metatraits were calculated as the mean of items measuring agreeableness, conscientiousness, emotional stability extraversion and intellect, respectively. GFP indicator was calculated as the mean of all items measuring the five traits. The reliabilities of the scales formed in this way are .67 (Alpha / Stability), .83 (Beta / Plasticity), .81 (GFP).

Analyses

The analysis of the circumplex structure was conducted in the RANDALL programme (Tracey, 1997). All other calculations were made using SPSS 24 package. CSIE, CSIV and IPIP-IPC scores were subject to centration.

Respondents

The studied sample comprised 306 people (including 74% of women and 7% with the absence of gender data). The age range of respondents is 16–72 years (M = 29.09, SD = 11.91). As many as 188 persons filled in on-line questionnaires and 118 were surveyed using a pencil-and-paper method. Some of the respondents completed only the CSIE questionnaire (n = 26), whereas others completed the CSIE together with the CSIV (n = 175), with the IPIP-IPC (xn = 224), with the IPIP-BFM-20 and the social desirability scale (n = 215).

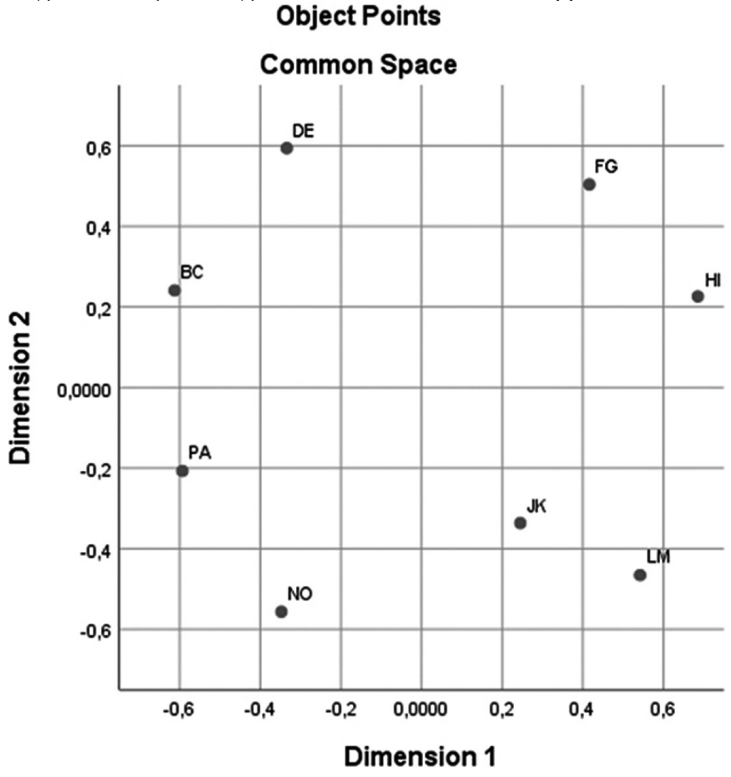
8. Results

Reliability and Circumplex Structure

The reliability of the Polish version and the original CSIE questionnaire is presented in Table 3. In the conducted study, the FG scale (Yielding and Distant) has the lowest value of Cronbach's α – .44. The reliabilities of the seven other scales range from .65 to .79. In general, the reliability of the Polish CSIE adaptation is lower than that of the original version. An attempt was made with principal axis factoring (PAF), but the matrix was not defined positively. Therefore, a principal component analysis (PCA) with Varimax rotation was carried out, with the following results: before centration, the first component explained 59.1% of the variance and the second one – 25.6% (a total of 84.7% of the variance). After centration, the first component explains 45.5% of the variance and the second one – 40.2% (a total of 85.7% of the variance). The factor loadings are shown in Table 4. The first component is located between agency and communion (closer to agency). The second component is located in communion and unmitigated communion. Then an analysis in the RANDALL programme was conducted (Tracey, 1997). Before centration, 217 out of 288 predictions were met; the model was poorly fitted (CI = 0.52, $p < .01$). After centration, 249 out of 288 predictions were met; the model was well-fitted (CI = 0.73, $p < .001$).

Subsequently, the multidimensional scaling for interpersonal octants of self-efficacy was conducted for CSIE-centred scales. The scores of this analysis are shown in Figure 2. In multidimensional scaling, the fit of the model to data is estimated using Stress 1 (Kruskal & Wish, 1978). Kruskal and Wish (1978) proposed the following interpretation of the discussed indicator: Stress 1 > .20 – poor fit, .10 ≤ Stress 1 ≤ .20 – satisfactory fit, .05 ≤ Stress 1 ≤ .10 – good fit, .025 ≤ Stress 1 ≤ .05 – perfect fit, .00 – ideal fit. In the presented analysis, Stress 1 is .202 – on the border of acceptability. However, Stress 1 does not directly indicate that the data are fitted to the circumplex model. The result of multidimensional scaling should therefore be interpreted with greater care, including the results of other analyses.

The multidimensional scaling showed one deviation in the structure, i.e., JK (Yielding and Friendly) and LM (Friendly) octants revealed locations opposite to those expected.



Locations of the remaining CSIE scales are consistent with the theoretical model.

Figure 2. Multidimensional scaling for octants of interpersonal self-efficacy. PA – Dominant, BC – Dominant and Distant, DE – Distant, FG – Yielding and Distant, HI – Yielding, JK – Yielding and Friendly, LM – Friendly, NO – Dominant and Friendly. *N* = 306; Stress 1: 0.202.

Table 3
Reliabilities of the original and Polish versions of the CSIE

Symbol	Locke's octants	Reliabilities (Cronbach's α		
		Locke's octants Locke, Sadler, 2007)	Polish adaptation	
			First version (Stanisławski, 2012)	Second version
PA	Dominant	0.83	0.71	0.79
BC	Dominant and Distant	0.78	0.66	0.69
DE	Distant	0.73	0.63	0.65
FG	Yielding and Distant	0.66	0.63	0.44
HI	Yielding	0.74	0.52	0.74
JK	Yielding and Friendly	0.75	0.65	0.71
LM	Friendly	0.67	0.55	0.75
NO	Dominant and Friendly	0.70	0.74	0.69

Note. CSIE – Circumplex Scales of Interpersonal Efficacy.

Table 4
Rotation component matrix

	Component	
	1	2
PA	0.88	−0,36
BC	0.58	−0,75
DE	0.21	−0,90
FG	−0,91	0.28
HI	−0,85	0.38
JK	−0.11	0.86
LM	−0,20	0.87
NO	0.93	0.04

Note. The meaning of abbreviations is explained in Table 1.

9. Correlations with External Criteria

Correlations between interpersonal self-efficacy and interpersonal traits. Pearson's correlations between vectors of agency and communion, obtained from CSIE and IPIP-IPC, were strong ($r = .61$ and $r = .56$, $p < .01$). The correlation coefficients for individual octants of interpersonal self-efficacy and interpersonal traits are presented in Table 5. The majority of these relationships are weak or moderate. Correlations between the octants of self-efficacy and their trait equivalents range from .22 to .51. Among the eight octants of interpersonal self-efficacy, five revealed the strongest correlations with the corresponding octants of interpersonal traits. These include BC (Dominant and Distant), FG (Yielding and Distant), LM (Friendly) and NO (Dominant and Friendly). PA (Dominant) has identical correlations with PA octants (Assured–Dominant) and BC (Arrogant–Calculating). The remaining octants of interpersonal self-efficacy (i.e., DE – Distant, HI – Yielding, JK – Yielding and Friendly) showed a pattern of relationships which was not consistent with expectations, i.e., stronger correlations with other octants of interpersonal traits than those marked with the same symbols. The relations of both IPC models can also be interpreted from the perspective of interpersonal traits. The four octants of traits show the strongest relationships with corresponding octants of self-efficacy: DE (Cold–Hearted), FG (Aloof–Introverted), LM (Warm–Agreeable), NO (Gregarious–Extraverted). The remaining octants showed a pattern of correlations which was not consistent with expectations.

Table 5
Correlations between interpersonal self-efficacy and interpersonal traits

Interpersonal traits	Interpersonal self-efficacy							
	PA	BC	DE	FG	HI	JK	LM	NO
PA	**0.34****	0.37**	0.20**	−0.44**	−0.34**	−0.11	−0.18**	0.31**
BC	0.34**	**0.49****	0.52**	−0.39**	−0.42**	−0.23**	−0.29**	0.00
DE	0.02	0.10	**0.22****	0.14*	0.05	−0.21**	−0.40**	−0.10
FG	−0.43**	−0.27**	−0.05	**0.51****	0.43**	−0.06	0.06	−0.49**
HI	−0.26*	−0.38**	−0.33**	0.44**	**0.37****	0.10	0.15*	−0.19**
JK	−0.24**	−0.39**	0.31**	0.27**	0.19**	**0.28****	0.31**	−0.06
LM	−0.12	−0.21**	−0.44**	−0.07	0.07	0.32**	**0.46****	0.20**
NO	0.25**	0.12	−0.02	−0.37**	−0.26**	0.05	0.08	**0.36****

Note. The meaning of abbreviations is explained in Table 1.
$n = 224$.
* $p < .05$. ** $p < .01$.

Correlations of interpersonal self-efficacy and interpersonal values. Correlations of agency and communion vectors with CSIE and CSIV indicate a moderate relationship ($r = .52$, $p < .01$ and $r = .41$, $p < .01$). Correlation coefficients between particular octants of interpersonal self-efficacy and interpersonal values are presented in Table 6. The correlations are weak or moderate – correlations between octants of self-efficacy and

their counterparts range from .20 to .40. Among the octants of interpersonal self-efficacy, five of them correlate most strongly with the corresponding interpersonal values: BC (Dominant and Distant), FG (Yielding and Distant), HI (Yielding), LM (Friendly) and NO (Dominant and Friendly). The JK octant (Yielding and Friendly) reveals identical relationships with two octants of values – JK (Yielding and Communal) and LM (Communal). The other two octants, PA (Dominant) and DE (Distant), show a correlation pattern contrary to expectations. The relationships between the two IPC models can be presented in terms of interpersonal values. Five octants of interpersonal values show the strongest relationships with the corresponding octants of interpersonal self-efficacy: PA (Agentic), DE (Distant), HI (Submissive), LM (Communal) and NO (Agentic and Communal). The remaining octants showed correlation patterns that did not meet expectations.

Table 6
Correlations between interpersonal self-efficacy and interpersonal values

Interpersonal values	Interpersonal self-efficacy							
	PA	BC	DE	FG	HI	JK	LM	NO
PA	**0.24****	0.04	−0.06	−0.10	−0.18*	0.05	0.02	0.13
BC	0.36**	**0.35****	0.47**	−0.22**	−0.44**	−0.36**	−0.30**	0.15
DE	0.08	0.16*	**0.31****	−0.03	−0.14	−0.22**	−0.21**	−0.03
FG	−0.18	−0.16*	−0.07	**0.22****	0.23**	−0.00	−0.12	−0.22**
HI	−0.25**	−0.15	−0.19	0.11	**0.40****	0.07	0.05	−0.20**
JK	−0.21**	−0.23**	−0.37**	0.11	0.22**	**0.27****	0.31**	−0.05
LM	−0.16*	−0.19*	−0.27**	−0.00	0.08	0.27**	**0.33****	0.06
NO	0.10	0.07	−0.21**	−0.06	−0.08	0.08	0.06	**0.20****

Note. The meaning of abbreviations is explained in Table 1.
$n = 175$.
* $p < .05$. ** $p < .01$.

Correlations of interpersonal self-efficacy, personality traits and social desirability. The correlations between CSIE octants and social desirability, personality traits, metatraits, GFP are presented in Table 7. Social desirability (overall score) correlates positively with NO (Dominant and Friendly) and negatively with HI (Yielding). The egoistic bias is most strongly (and positively) connected with NO (Dominant and Friendly) and PA (Dominant). The strongest negative relationships were observed with HI (Yielding) and JK (Yielding and Friendly). The moralistic bias correlates most strongly (and positively) with NO (Dominant and Friendly), while the strongest negative correlation was found with DE (Distant). The egoistic bias is more strongly correlated with CSIE scales than the general level of social desirability and moralistic bias. However, all these correlations were at most moderate, indicating a limited bias on CSIE scales with a variable of social desirability.

Extraversion has revealed the strongest positive correlations with NO (Dominant and Friendly) and PA (Dominant), whereas the strongest negative correlations with

FG (Yielding and Distant) and HI (Submissive). Agreeableness turned out to be most strongly (and positively) correlated with LM (Friendly) and JK (Yielding and Friendly) and most strongly (and negatively) correlated with DE (Distant). In the case of conscientiousness, only one significant and weak correlation was found. The variance of intellect is most strongly associated with the variances of NO (Dominant and Friendly) and PA (Dominant). Negative correlations for the intellect were found with FG (Yielding and Distant) and HI (Yielding). In conclusion, as expected, the personality traits most closely associated with interpersonal self-efficacy turned out to be extraversion and agreeableness, and – unexpectedly – intellect. The above-mentioned correlations suggest that at the metatrait level, Beta / Plasticity should show the strongest correlations with interpersonal self-efficacy.

The results obtained indicate that GFP is most strongly (and positively) correlated with NO (Dominant and Friendly) and most strongly (and negatively) correlated with FG (Yielding and Distant). Alpha / Stability revealed the strongest positive correlation with NO (Dominant and Friendly) and the strongest negative one with DE (Distant). Beta was correlated most strongly (and positively) with NO (Dominant and Friendly) and PA (Dominant), while most strongly (and negatively) with FG (Yielding and Distant) and HI (Yielding). The analysed metatraits revealed similar relationship patterns, but GFP and Beta proved to be substantially more correlated with interpersonal self-efficacy than Alpha.

Table 7
Correlations between interpersonal self-efficacy, social desirability and personality traits

	Interpersonal self-efficacy							
	PA	BC	DE	FG	HI	JK	LM	NO
Social desirability	0.13	0.07	−0.11	−0.02	−0.19**	−0.10	−0.03	0.39**
Egoistic bias	0.30**	0.24**	0.07	−0.17*	−0.36**	−0.20**	−0.17*	0.46**
Moralistic bias	−0.09	−0.13	−0.27**	0.15*	0.03	0.04	0.11	0.24**
Extraversion	0.40**	0.23**	−0.01	−0.47**	−0.37**	0.02	−0.02	0.46**
Agreeableness	−0.16*	−0.15*	−0.28**	−0.03	0.03	0.23**	0.33**	0.16*
Conscientiousness	0.10	0.03	−0.10	−0.07	−0.03	0.07	−0.06	0.14*
Emotional stability	0.24**	0.07	−0.05	−0.17*	−0.17*	−0.01	−0.12	0.32**
Intellect	0.35**	0.22**	−0.02	−0.34**	−0.31**	−0.08	−0.06	0.42**
GFP	0.34**	0.15*	−0.14*	−0.38**	−0.30**	0.07	−0.00	0.51**
Alfa	0.14*	−0.01	−0.22**	−0.16*	−0.10	0.15*	0.04	0.35**
Beta	0.44**	0.26**	−0.01	−0.48**	−0.40**	−0.03	−0.04	0.51**

Note. The meaning of abbreviations is explained in Table 1.
$n = 215$.

* $p < .05$. ** $p < .01$.

Personality correlates of interpersonal flexibility and rigidity. Correlations between the interpersonal flexibility indicators obtained with various tools are as follows: CSIE–CSIV: $r = .18$, $p < .05$; CSIE–IPIP-IPC: $r = .36$, $p < .05$; CSIV–IPIP-IPC: $r = .09$, $p > .05$. Hence, these are weak correlations at best. The following correlations were found between the interpersonal rigidity indicators for the following tools: CSIE–CSIV: $r = .36$, $p < .01$; CSIE–IPIP-IPC: $r = .42$, $p < .01$; CSIV–IPIP-IPC: $r = .35$, $p < .01$. Thus they were found to be stronger than those for flexibility. In turn, correlations between the flexibility and rigidity indicators obtained with various questionnaires measuring interpersonal variables were as follows: CSIE: $r = -.35$, $p < .01$; CSIV: $r = -.27$, $p < .01$; IPIP-IPC: $r = .14$, $p < .05$.

The correlations between interpersonal flexibility, interpersonal rigidity as well as social desirability and personality traits are presented in Table 8. The rigidity and flexibility of interpersonal values do not significantly correlate with social desirability. The rigidity and flexibility of interpersonal traits correlate with an egoistic bias, and the rigidity itself is linked to the overall score of social desirability. The flexibility of interpersonal self-efficacy is correlated with the general level of social desirability and egoistic bias. The rigidity of interpersonal self-efficacy has not shown any significant correlations with the dimensions of social desirability.

Table 8

Correlations between elevations, vector lengths and social desirability, personality traits

	Interpersonal flexibility[a]			Interpersonal rigidity[b]		
	CSIE	CSIV	IPIP-IPC	CSIE	CSIV	IPIP-IPC
Social desirability	0,17*	−0.09	0.06	−0.00	−0.07	0.16*
Egoistic bias	0.28**	−0.13	0.19**	−0.09	−0.06	0.16*
Moralistic bias	0.01	−0.04	−0.10	0.09	−0.07	0.12
Extraversion	0.43**	0.04	0.47**	−0.05	0.25**	0.30**
Agreeableness	0.22**	−0.08	0.23**	0.23**	0.39**	0.58**
Conscientiousness	0.15*	0.09	−0.10	−0.05	−0.19*	0.03
Emotional stability	0.24**	−0.31**	0.21**	−0.02	0,20*	0.19**
Intellect	0.53**	−0.15	0.36**	−0.05	0.28**	0.28**
GFP	0.52**	−0.13	0.39**	0.00	0.29**	0.44**
Alpha	0.33**	−0.16*	0.16*	0.06	0,17*	0.38**
Beta	0.55**	−0.05	0.48**	−0.06	0.30**	0.34**

Note. CSIE (Circumplex Scales of Interpersonal Efficacy), $n = 215$. CSIV (Circumplex Scales of Interpersonal Values), $n = 148$. IPIP-IPC (International Personality Item Pool–Interpersonal Circumplex), $n = 195$.

[a] profile elevation. [b] vector length.

* $p < .05$. ** $p < .01$.

Flexibility in terms of interpersonal self-efficacy and interpersonal traits correlates with extraversion, agreeableness, emotional stability, intellect, GFP, Alpha, and Beta.

The flexibility of interpersonal values is only dependent on emotional stability and Alpha. The rigidity of interpersonal values and traits correlates with extraversion, agreeableness, emotional stability, intellect, GFP, Alpha and Beta. The rigidity of interpersonal self-efficacy is only correlated with agreeableness. In conclusion, in the case of interpersonal traits, both flexibility (profile elevation) and rigidity (vector length) correlate with basic personality traits. As far as interpersonal efficacy is concerned, its flexibility proved to be linked to personality traits, while its rigidity proved to be essentially independent of personality traits. For the interpersonal values the pattern was reverse, i.e., rigidity correlated with personality traits, whereas flexibility generally did not.

10. Discussion

Psychometric Properties of the CSIE

The first aim of the current study was the empirical verification of the Polish adaptation of the CSIE questionnaire. The main shortcoming of the presented CSIE version is low Cronbach's α of the FG (Yielding and Distant) scale. This scale, also in the original version, has the lowest (although clearly higher) reliability. The reliability of the FG (Distant) scale can be considered to be relatively satisfactory (α = .65). The reliabilities of the remaining scales range from .69 to .79 and they are satisfactory.

As in the original version, PCA has revealed that the first two factors explain the vast majority of variance, and each of them explain a similar part, which confirms the circumplex structure of interpersonal self-efficacy. PCA has some limitations, e.g., it may overestimate the variance explained by the components (Schmitt, 2011). Due to the negatively defined matrix, it was not possible to carry out an PAF, characterised by fewer shortcomings. However, PCA is commonly used in the study of the structure of circumplex models (Locke, 2000; Locke & Sadler, 2007; Ojanen et al., 2005; Wiggins, Phillips, & Trapnell, 1989), which facilitates the comparison of the obtained results.

The next step in the analysis of the circumplex structure was a randomization test, which revealed that the Polish version of the CSIE had slightly less fit than the original one (Locke & Sadler, 2007). Multidimensional scaling confirmed the circular structure, although one deviation was found in this structure – JK octants (Yielding and Friendly) and LM (Friendly) were empirically located in the reverse order.

The four octants of interpersonal self-efficacy proved, as expected, to be most correlated with both the corresponding values and interpersonal traits; these included BC (Dominant and Distant), FG (Yielding and Distant), LM (Friendly) and NO (Dominant and Friendly). Such octants as PA (Dominant), JK (Yielding and Friendly) and HI (Yielding) revealed an essentially consistent relationships pattern with one type of external interpersonal construct (traits or values) and inconsistent with another one. Only one octant of interpersonal self-efficacy, i.e., DE (Distant), correlated against expectations for both traits and values.

It is not known whether the above-mentioned deviations of the results from expectations are properties of the Polish version of the instrument or the original version as well. It is worth noting that although the measurements of self-efficacy, values and traits are based on IPC, they apply to other personality domains. Thus, the pattern found may not necessarily be the result of measurement imperfections, but may

be due to that the DE (Distant) octant and – to a lesser extent – the PA (Dominant), JK (Yielding and Friendly) and HI (Yielding) octants not corresponding perfectly with one another in the area of self-efficacy and in the areas of values and traits.

The next step of CSIE validation was the analysis of the relationships between personality traits and interpersonal self-efficacy. The following traits were most strongly correlated with interpersonal self-efficacy: extraversion, agreeableness (as expected) and, somewhat surprisingly, intellect. The latter relationship may be less related to the interpersonal nature of the variables measured by CSIE, and more to the fact that it measures self-efficacy, i.e., a cognitive variable (cf. Bandura, 2006). In the area of interpersonal self-efficacy, extraversion and intellect are located between agency and communion (but closer to agency). Interestingly, the correlations between intellect and the octants of self-efficacy are only slightly weaker than the correlations with extraversion. The reason for this situation may be the significance Beta / Plasticity metatrait, which is responsible for the common variance of extraversion and intellect has for interpersonal self-efficacy. Among all the traits and metatraits taken into account, Beta turned out to be most strongly correlated with interpersonal self-efficacy, and it can be located between agency and communion (but closer to agency). These findings are similar to relations of IPC and metatraits obtained by Strus and Cieciuch (2017).

These results can be related to Cybernetic Big Five Theory (CB5T) proposed by DeYoung (2015). The basic assumption of this theory is the postulate that the personality theory should be based on cybernetics, i.e., a test of the system's ability to self-regulate. According to DeYoung (2015), the key category next to the traits is the category of characteristic adaptations. They are understood as "relatively stable goals, interpretations, and strategies, specified in relation to an individual's particular life circumstances" (p. 38). The goals are defined as "representations of a desired future state" (pp. 38–39). The interpretations are "representations of the current state of the world (including the self), involving both factual and evaluative information" (p. 39), while the strategies are "plans, actions, skills, and automatised routines that are used to attempt to transform the current state into the desired future state" (p. 39). DeYoung (2015) points out that socio-cognitive personality theories (e.g., model of interpersonal self-efficacy) can be interpreted as characteristic adaptations that can be explained by traits (and also metatraits). In the proposal of the author of CB5T theory (2015), an important place is occupied by Alpha / Stability and Beta / Plasticity. According to him, the cybernetic function of Alpha / Stability's is the "protection of goals, interpretations, and strategies from disruption by impulses" (p. 42). In turn, the function of Beta / Plasticity is "exploration: creation of new goals, interpretations, and strategies" (p. 42). In this context, a high level of Beta / Plasticity may be revealed in the creation of many new characteristic adaptations as well as a wide range of behaviours and reactions in the interpersonal domain too. This, in turn, will manifest itself in the flexibility of an individual's social functioning, and indeed, Beta / Plasticity has revealed the strongest correlations with interpersonal flexibility both in the sphere of the self-efficacy measured by the CSIE and in the sphere of traits.

Another trait, which was expected to demonstrate systematic and relatively strong correlations with interpersonal self-efficacy, is agreeableness. Indeed, it turned out to be the most strongly (and positively) linked to the LM (Friendly) and JK (Yielding and Friendly) octants, and the most strongly (and negatively) linked to DE (Distant).

Agreeableness is most closely linked to communion. The results obtained are similar to observations by other authors – extraversion is linked to agency while agreeableness to communion (de Raad, 1995; DeYoung et al., 2013; Trapnell & Wiggins, 1990).

GFP revealed correlations with both agency and communion represented by the NO (Dominant and Friendly) and FG (Yielding and Distant) octants. Interestingly, although weaker than Beta / Plasticity and GFP, the correlations with interpersonal self-efficacy were also shown by Alpha / Stability. Generally speaking, it has proved to be related to communion.

Personality Correlates of Interpersonal Flexibility

The second aim of the study was to elucidate the personality correlates of two indicators of the repertoire breadth of interpersonal behaviours – flexibility (operationalised as profile elevation) and interpersonal rigidity (operationalised as vector length). Contrary to the suggestions of some authors that elevation is an indicator of response style (Gurtman & Pincus, 2003), correlations between interpersonal flexibility, interpersonal rigidity and the measures of social desirability turned out to be weak or insignificant.

The profile elevation (flexibility) of CSIV correlated significantly only with emotional stability (negatively). This result is consistent with the findings of Locke and Adamic (2012), who found that people with a higher CSIV elevation experienced more worries, a sense of difficulty and internal conflict. It seems reasonable that preferring different interpersonal values may involve interpersonal problems. This result suggests that elevation of CSIV does not reflect interpersonal flexibility, but rather a conflict in the sphere of values.

It may be assumed that the repertoire breadth of interpersonal behaviours is negatively correlated with the intensity of ethnic prejudices. Sibley and Duckitt (2008) carried out a meta-analysis of personality correlates of ethnic bias, including a sample of 22,068 people. The authors stated that ethnic prejudices are consistently associated with lower agreeableness and lower openness to experience (Sibley & Duckitt, 2008). The flexibility of both interpersonal self-efficacy and interpersonal traits correlated positively with extraversion, intellect, agreeableness, emotional stability, GFP, and Beta. The above-mentioned configuration of traits resembles the personality correlates of ethnic prejudices.

It is worth noting that among all analysed traits and metatraits both the flexibility of interpersonal self-efficacy and flexibility of interpersonal traits correlate most strongly with Beta. It is possible that Plasticity, in addition to interpersonal self-efficacy, also explains interpersonal flexibility. It seems that the above interpretation is consistent with the cybernetic function of Beta / Plasticity (DeYoung, 2015).

Locke and Adamic (2012) noticed that the people with a higher elevation of CSIE profile exhibited more worries about making the wrong decision. At the same time, they feel less internal conflict, perceive a given situation as less difficult and are more confident in their decision. These correlations are consistent with the results obtained in the current study. Among the analyzed variables, Locke and Adamic did not find any correlates of elevation of IPIP-IPC.

The second analysed indicator of repertoire breadth of interpersonal behaviours is vector length. Locke and Adamic (2012) suggest that people with shorter vectors

are more flexible, but at the same time they may be less able to cope with ambivalent situations. On the other hand, people with a longer vector (more rigid) may show a narrower repertoire of interpersonal behaviours, but they may be more convinced of the validity of their actions. In the present study, it has been found that the rigidity of interpersonal self-efficacy (vector length) correlates only with agreeableness, and this correlation was weak and positive. In turn, the rigidity of interpersonal values and traits correlated with extraversion, intellect, agreeableness and emotional stability; this configuration of traits resembles GFP. Indeed, the rigidity of interpersonal values and traits was correlated with GFP, Alpha, and Beta. It seems that a person with clearly defined interpersonal values and a strongly crystallised repertoire of interpersonal behaviours can be simultaneously stable (Alpha), determined and confident (Beta) in the face of new situations. These results suggest that a narrow repertoire of interpersonal behaviours would mean in this case not so much rigidity but clarity and determination.

Locke and Adamic (2012) stated that a longer CSIE vector was linked to stronger confidence in decision made. A longer CSIV vector, on the other hand, is also correlated with fewer worries, a lower sense of difficulty and stronger confidence in the decision made. The length of the IPIP-IPC vector was associated with a lower sense of internal conflict, lower sense of difficulty and a stronger confidence in the decision made (Locke & Adamic, 2012). In the case of the vector's length correlates, the results of the cited authors and conclusions from the current research are also consistent with each other.

For both CSIE and CSIV, the elevation and vector length correlate negatively with each other, but these correlations are moderate and weak respectively. These results are consistent with the literature and suppositions formulated in the introduction. In the case of the elevation and length vector of IPIP-IPC, the correlation is positive but very weak. Negative correlations between profile elevation and vector length, and especially their relationships with personality traits, metatraits and GFP suggest that profile elevation may be a satisfactory indicator of the repertoire of interpersonal behaviours. In turn, the profile elevation and vector length may be independent indicators of the repertoire of interpersonal behaviours. However, the vector length does not have to directly reflect the narrow repertoire of interpersonal behaviours (e.g., a short vector can represent a person with a broad repertoire of behaviours or a person with low scores in all areas of the circumplex model). Presumably, the repertoire of available interpersonal behaviours is better reflected by profile elevation than by the vector length. One may hope that the future research will make it possible to verify this thesis.

In conclusion, the Polish version of CSIE has a generally satisfactory internal structure and theoretical validity. At the same time, the low reliability of the FG scale (Yielding and Distant) and the reversaled position of the two octants, i.e., JK (Yielding and Friendly) and LM (Friendly), draw attention to the need for their modification in future research. In the case of investigating of correlates of the repertoire of interpersonal behaviours, the not a very large sample and the fact that the study was dominated by women can be considered limitations. It is worth noting that this research is probably the first empirical analysis of the correlations between the repertoire of interpersonal behaviours and personality traits and metatraits. It is advisable to replicate the obtained results with a larger sample, that is more balanced in terms of gender proportions. It may be interesting to explore the correlations between various indicators of the repertoire of interpersonal behaviours and real social behaviours.

References

Alden, L. E., Wiggins, J. S., & Pincus, A. L. (1990). Construction of Circumplex Scales for the Inventory of Interpersonal Problems. *Journal of Personality Assessment*, *55*, 521–536. DOI: 10.1207/s15327752jpa5503&4_10

Ambwani, S., Berenson, K. R., Simms, L., Li, A., Corfield, F., & Treasure, J. (2016). Seeing things differently: An experimental investigation of social cognition and interpersonal behaviour in anorexia nervosa. *International Journal of Eating Disorders*, *49*, 499–506. DOI: 10.1002/eat.22498

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, *28*, 117–148. DOI: 10.1207/s15326985ep2802_3

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, *52*, 1–26. DOI: 10.1146/annurev.psych.52.1.1

Bandura, A. (2006). Guide for constructing self-efficacy scales. In T. C. Urdan & F. Pajares (Eds.), *Self-Efficacy Beliefs of Adolescents* (pp. 307–337). Greenwich, CT: Information Age.

Caprara, G. V., Barbaranelli, C., Borgogni, L., & Vecchione, M. (2007). *BFQ-2: manuale*. Florence, Italy: Organizzazioni Speciali.

Carson, R. C. (1969). *Interaction concepts of personality.* Chicago, Il: Aldine.

DeYoung, C. G. (2015). Cybernetic Big Five Theory. *Journal of Research in Personality*, *56*, 33–58. DOI: 10.1016/j.jrp.2014.07.004

DeYoung, C. G., Peterson, J. B., & Higgins, D. M. (2002). Higher-order factors of the Big Five predict conformity: Are there neuroses of health? *Personality and Individual Differences*, *33*, 533–552. DOI: 10.1016/s0191-8869(01)00171-4

DeYoung, C. G., Weisberg, Y. J., Quilty, L. C., & Peterson, J. B. (2013). Unifying the aspects of the Big Five, the interpersonal circumplex, and trait affiliation. *Journal of Personality*, *81*, 465–475. DOI: 10.1111/jopy.12020

Digman, J. M. (1997). Higher-order factors of the Big Five. *Journal of Personality and Social Psychology*, *73*, 1246–1256. DOI: 10.1037//0022-3514.73.6.1246

Erickson, T. M., Newman, M. G., & Pincus, A. L. (2009). Predicting unpredictability: Domeasures of interpersonal rigidity/flexibility and distress predict intraindividual variability in social perceptions and behaviour? *Journal of Personality and Social Psychology*, *97*, 893–912. DOI: 10.1037/a0016515

Foa, U. G. (1961). Convergences in the analysis of the structure of interpersonal behaviour. *Psychological Review*, *68*, 341–355. DOI: 10.1037/h0039638

Gurtman, M. B. (2011). Circular reasoning about circular assessment. In L. M. Horowitz & S. Strack (Eds.), *Handbook of interpersonal psychology: Theory, research, assessment and therapeutic interventions* (pp. 299–312). Hoboken, NJ: Wiley. DOI: 10.1002/9781118001868.ch18

Gurtman, M. B., & Balakrishnan, J. D. (1998). Circular measurement redux: The analysis and interpretation of interpersonal circle profiles. *Clinical Psychology: Science and Practice*, *5*, 344–360. DOI: 10.1111/j.1468-2850.1998.tb00154.x

Gurtman, M. B., & Pincus, A. L. (2003). The circumplex model: Methods and research applications. In J. Shinka & W. F. Velicer (Eds.), *Handbook of psychology: Vol. 2*: *Research methods* (pp. 407–428). New York, NY: Wiley. DOI:

10.1002/0471264385.wei0216
Horowitz, L. M., Rosenberg, S. E., Baer, B. A., Ureno, G., & Villasenor, V. S. (1988). Inventory of Interpersonal Problems: Psychometric Properties and Clinical Applications. *Journal of Consulting and Clinical Psychology*, *56*, 885–892. DOI: 10.1037//0022-006x.56.6.885
Kammrath, L. K., McCarthy, M. H., Cortes, K., & Friesen, C. (2015). Picking one's battles: How assertiveness and unassertiveness abilities are associated with extraversion and agreeableness. *Social Psychological and Personality Science*, *6*, 622–629. DOI: 10.1177/1948550615572635
Kiesler, D. J. (1983). The 1982 interpersonal circle: A taxonomy for complementarity in human transactions. *Psychological Review*, *90*, 185–214. DOI: 10.1037//0033-295x.90.3.185
Klinkosz, W. (2004). Interpersonalne Skale Przymiotnikowe (IAS-R). Polskie tłumaczenie kwestionariusza Jerrego S. Wigginsa. *Przegląd Psychologiczny*, *47*, 379–393.
Kruskal, J. B., & Wish, M. (1978). *Multidimensional scaling*. Newbury Park, CA: SAGE.
Leary, T. (1957). *Interpersonal diagnosis of personality: A functional theory and methodology for personality evaluation*. New York, NY: Ronald Press.
Locke, K. D. (2000). Circumplex Scales of Interpersonal Values: Reliability, validity, and applicability to interpersonal problems and personality disorders. *Journal of Personality Assessment*, *75*, 249–267. DOI: 10.1207/ s15327752jpa7502_6
Locke, K. D., & Adamic, E. J. (2012). Interpersonal circumplex vector length and interpersonal decision making. *Personality and Individual Differences*, *53*, 764–769. DOI: 10.1016/j.paid.2012.06.001
Locke, K. D., & Mitchell, G. E. (2016). Self-perceptions, parent-perceptions, and metaperceptions of the interpersonal efficacy of adolescents with autism spectrum disorder. *Research in Autism Spectrum Disorders*, *31*, 19–29. DOI: 10.1016/j.rasd.2016.07.006
Locke, K. D., & Sadler, P. (2007). Self-efficacy, values, and complementarity in dyadic interactions: Integrating interpersonal and social-cognitive theory. *Personality and Social Psychology Bulletin*, *33*, 94–109. DOI: 10.1177/0146167206293375
Markey, P. M., & Markey, C. N. (2009). A brief assessment of the Interpersonal Circumplex: The IPIP-IPC. *Assessment*, *16*, 352–361. DOI: 10.1177/1073191109340382
McCrae, R. R., & Costa, P. T., Jr. (1989). The structure of interpersonal traits: Wiggins's circumplex and the five-factor model. *Journal of Personality and Social Psychology*, *56*, 586–595. DOI: 10.1037//0022-3514.56.4.586
Musek, J. (2007). A general factor of personality: Evidence of the Big One in the five-factor model. *Journal of Research in Personality*, *41*, 1213–1233. DOI: 10.1016/j.jrp.2007.02.003
O'Connor, B. P., & Dyce, J. A. (2001). Rigid and extreme: A geometric representation of personality disorders in five-factor model space. *Journal of Personality and Social Psychology*, *81*, 1119–1130. DOI: 10.1037//0022-3514.81.6.1119
Ojanen, T., Gronroos, M., & Salmivalli, C. (2005). An Interpersonal Circumplex model of children's social goals: Links with peer-reported behaviour and sociometric status. *Developmental Psychology*, *41*, 699–710. DOI: 10.1037/0012-

1649.41.5.699
Paulhus, D. L., John, & O. P. (1998). Egoistic and moralistic biases in self-perception: The interplay of self-deceptive styles with basic traits and motives. *Journal of Personality*, *66*, 1025–1060. DOI: 10.1111/1467-6494.00041
Paulhus, D. L., & Martin, C. L. (1988). Functional flexibility: A new conceptualization of interpersonal flexibility. *Journal of Personality and Social Psychology*, *55*, 88–101. DOI: 10.1037//0022-3514.55.1.88
de Raad, B. (1995). The psycholexical approach to the structure of interpersonal traits. *European Journal of Personality*, *9*, 89–102. DOI: 10.1002/per.2410090203
Rushton, J. P., & Irwing, P. (2011). The General Factor of Personality: Normal and abnormal. In T. Chamorro-Premuzic, S. von Stumm, & A. Furnham (Eds.), *The Wiley-Blackwell handbook of individual differences* (pp. 132–163). London, England: Blackwell. DOI: 10.1002/9781444343120.ch5
Schmitt, T. A. (2011). Current methodological considerations in exploratory and confirmatory factor analysis. *Journal of Psychoeducational Assessment*, *29*, 304–321. DOI: 10.1177/0734282911406653
Sękowski, A., & Klinkosz, W. (2003 , July). *Analiza psychometryczna polskiej wersji Interpersonalnych Skal Przymiotnikowych J. S. Wigginsa*. Poster presented at 11. Meeting of the International Association of Psychology of Individual Differences. Graz, Austria.
Sękowski, A., & Klinkosz, W. (2016). *IAS. Interpersonalne Skale Przymiotnikowe Jerry'ego S. Wigginsa. Podręcznik*. Warsaw, Poland: Pracownia Testów Psychologicznych PTP.
Sibley, C. G., & Duckitt, J. (2008). Personality and prejudice: A meta-analysis and theoretical review. *Personality and Social Psychology Review*, *12*, 248–279. DOI: 10.1177/1088868308319226
Stanisławski, K. (2012). Prace nad polską adaptacją kwestionariusza kompetencji interpersonalnych CSIE Locke'a. In E. Drop & M. Maćkiewicz (Eds.), *Młoda psychologia: Vol. 1* (pp. 133–147). Warsaw, Poland: Liberi Libri.
Strus, W., & Cieciuch, J. (2014). Poza Wielką Piątkę – przegląd nowych modeli struktury osobowości. *Polskie Forum Psychologiczne*, *19*, 17–49. DOI: 10.14656/PFP20140102
Strus, W., & Cieciuch, J. (2017). Towards a synthesis of personality, temperament, motivation, emotion and mental health models within the Circumplex of Personality Metatraits. *Journal of Research in Personality*, *66*, 70–95. DOI: 10.1016/j.jrp.2016.12.002
Strus, W., Cieciuch, J., & Rowiński, T. (2014). The Circumplex of Personality Metatraits: A synthesizing model of personality based on the Big Five. *Review of General Psychology*, *18*, 273–286. DOI: 10.1037/gpr0000017
Topolewska, E., Skimina, E., Strus, W., Cieciuch, J., & Rowiński, T. (2014). Krótki kwestionariusz do pomiaru Wielkiej Piątki IPIP-BFM-20. *Roczniki Psychologiczne*, *17*, 367–384.
Tracey, T. J. G. (1997). RANDALL: A Microsoft FORTRAN program for a randomization test of hypothesized order relations. *Educational and Psychological Measurement*, *57*, 164–168. DOI: 10.1177/0013164497057001012
Tracey, T. J. G. (2005). Interpersonal rigidity and complementarity. *Journal of Research in*

Personality, *39*, 592–614. DOI: 10.1016/j.jrp.2004.12.001
Tracey, T. J. G., & Rohlfing, J. E. (2010). Variations in the understanding of interpersonal behaviour: Adherence to the interpersonal circle as a moderator of the rigidity psychological well-being relation. *Journal of Personality*, *18*, 711–746. DOI: 10.1111/j.1467-6494.2010.00631.x
Trapnell, P. D., & Wiggins, J. S. (1990). Extension of the Interpersonal Adjective Scales to include the Big Five dimensions of personality. *Journal of Personality and Social Psychology*, *59*, 781–790. DOI: 10.1037//0022-3514.59.4.781
Wiggins, J. S. (1979). A Psychological taxonomy of trait-descriptive terms: The interpersonal domain. *Journal of Personality and Social Psychology*, *37*, 395–412. DOI: 10.1037//0022-3514.37.3.395
Wiggins, J. S., & Broughton, R. (1991). A geometric taxonomy of personality scales. *European Journal of Personality*, *5*, 343–365. DOI: 10.1002/per.2410050503
Wiggins, J. S., Phillips, N., & Trapnell, P. (1989). Circular reasoning about interpersonal behaviour: Evidence concerning some untested assumptions underlying diagnostic classification. *Journal of Personality and Social Psychology*, *56*, 296–305. DOI: 10.1037//0022-3514.56.2.296
Wiggins, J. S., Trapnell, P., & Phillips, N. (1988). Psychometric and geometric characteristics of the Revised Interpersonal Adjective Scales (IAS-R). *Multivariate Behavioural Research*, *23*, 517–530. DOI: 10.1207/s15327906mbr2304_8