The Indonesian Version of the Cooperative and Competitive Personality Scale: Psychometric Properties Examination Among University Students in West Java

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Abstract

Understanding and accurately measuring cooperative and competitive behaviour is essential for effectively predicting and applying these traits across various fields. This study aimed to adapt the Cooperative and Competitive Personality Scale (CCPS) for use in Indonesia and evaluated its psychometric properties. The Indonesian CCPS was adapted through translation and back-translation, then tested on 720 participants alongside the Big Five Inventory-50, Prosocial Scale for Adults and Prosocial Tendencies Measure. The results showed α=0.934; ω=0.933 for the cooperative, and α=0.884; ω=0.831 for the competitive, and strong test-retest correlations (r=0.978 for cooperative, r=0.984 for competitive). The findings demonstrate that the Indonesian CCPS is a valid and reliable instrument with strong psychometric properties. The findings help researchers and practitioners identify cooperative and competitive behaviour across contexts. In addition, these findings support the use of CCPS to design interventions to enhance teamwork and healthy competition.
Keywords: cooperative and competitive personality scale; factor analysis; Indonesian adaptation; invariance; psychometric evaluation

Abstrak

Memahami dan mengukur perilaku kooperatif dan kompetitif secara akurat penting untuk memprediksi dan menerapkan sifat-sifat ini secara efektif di berbagai bidang. Penelitian ini bertujuan untuk mengadaptasi Skala Kepribadian Kooperatif dan Kompetitif (CCPS) untuk digunakan di Indonesia dan mengevaluasi sifat-sifat psikometriknya. CCPS Indonesia diadaptasi melalui proses penerjemahan dan penerjemahan-balik, kemudian diujicobakan kepada 720 partisipan bersama dengan Big Five Inventory-50, Skala Prososial Orang Dewasa, dan Prosocial Tendencies Measure. Hasilnya menunjukkan α=0.934; ω=0.933 untuk kooperatif, dan α=0.884; ω=0.831 untuk kompetitif, serta korelasi tes-retes yang kuat (r=0.978 untuk kooperatif, r=0.984 untuk kompetitif). Secara keseluruhan, temuan-temuan ini menunjukkan bahwa CCPS Indonesia valid dan reliabel dengan sifat-sifat psikometrik yang kuat. Temuan ini membantu para peneliti dan praktisi untuk mengidentifikasi perilaku kooperatif dan kompetitif di berbagai konteks. Kemudian temuan ini mendukung penggunaan CCPS untuk merancang intervensi guna meningkatkan kerjasama tim dan persaingan yang sehat.
Keywords*: skala kepribadian kooperatif dan kompetitif; analisis faktor; adaptasi Indonesia; invarian; evaluasi psikometri*

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INTRODUCTION

Cooperative and competitive behaviours are deeply embedded in everyday life, emerging across diverse settings including the workplace, education, sports, and business. In professional environments, organizations promote collaboration among employees to attain shared objectives while cultivating competition to drive individual performance through incentives such as promotions and bonuses. (Kalra et al., 2021; Ömüriş et al., 2020). In educational settings, students are trained to develop cooperative behaviour through group projects; however, they are also encouraged to compete for top grades and scholarships (Eriksson et al., 2021). Athletes must cooperate with teammates and coaches to secure victories while embodying a competitive spirit to excel individually and win championships (Landkammer et al., 2019). Companies engage in strategic partnerships while fiercely competing for market share and profits (Li et al., 2022).

According to Deutsch's (1949) theory of cooperation and competition, these behaviours are responses to distinct social situations and are influenced by cultural, situational, and individual personality factors (Deutsch, 1949). Cooperative and competitive behaviours are frequently analysed within social dilemmas, where tensions arise between personal interests and the group's goals (Parks et al., 2015; Van Lange et al., 2013). Studying these behaviours is particularly intriguing because individuals may choose to cooperate for mutual benefit or prioritise personal interests.

Research on cooperative and competitive behaviours is crucial for understanding social dynamics and their impacts on individual and group outcomes (Fehl et al., 2011; Lee et al., 2018). Studies of cooperative behaviour have illuminated how cooperation enhances team productivity and interpersonal relationships (van Gerwen et al., 2018). Contrastingly, research on competitive behaviour can provide insights into how competition drives innovation and individual motivation (Tang, 2006). Understanding the interplay between these behaviours is essential for managing conflicts, improving work effectiveness, and creating strategies to balance individual and group goals. There is an urgent need for an effective measurement tool to accurately identify and analyse cooperative and competitive behaviours in various contexts. Such a tool can enable practical applications in research and practice, providing a standard approach to assess these behaviours.

In Indonesia, extensive research has been conducted on cooperative and competitive behaviours in diverse contexts. Previous studies in Indonesia on cooperative and competitive behaviour were conducted in the context of education, which measured cooperative behaviour in students (Amalia, 2023). In the industrial context, cooperative behaviour was measured in business (Aryaningtyas et al., 2020). In the health context, cooperative behaviour was measured in clients during the treatment process (Elvara Arlianda & Dewi Rosiana, 2022). However, these studies are inconsistent in using standardised instruments to describe cooperative and competitive behaviour. Therefore, adapting the Cooperative and Competitive Personality Scale will fill this gap.

Cooperative and competitive behaviours have been extensively studied in various situations, leading to the development of various tools to measure these behaviours. Several tools have been developed to measure cooperative and competitive personalities, including the Scale of Competitive and Cooperative Strategies (Simmons et al., 1988), the Competitiveness Questionnaire (Griffin-Pierson, 1990), and the Cooperativeness Scale (L. Lu and Argyle, 1991), Cooperation and Competition Inventory (Tauer & Harackiewicz, 2004), and Orientation Toward Cooperation and Competition (X.-P. Chen et al., 2011), and the Cooperative and Competitive Personality Scale (S. Lu et al, 2013).

Among these measurement tools, developed by Su Lu in 2013, was the most recent, measuring cooperative and competitive factors in the context of social dilemmas. The tool developed by Su Lu has good psychometric properties (cooperative, α=0.87; competitive, α=0.80) (S. Lu et al., 2013); however, it is still in English and has not been found in Bahasa. English is not a common language in Indonesia; thus, adaptation is necessary to suit the Indonesian context. Su Lu used factor analysis, model testing, construct and criterion validity to develop the Cooperative and Competitive Personality Scale (CCPS). In this study, the psychometric properties of the Indonesian version of the CCPS were adapted and tested using the same analytical techniques, adding an invariance analysis to evaluate item bias based on gender.

The CCPS is developed to categorize an individual's personality profile as cooperative or competitive. It is based on the premise that cooperative and competitive behaviours are stable personality traits (S. Lu et al., 2013), with personality traits broadly understood as enduring patterns of cognition, emotion, and behaviour. In theory, individuals with cooperative personalities are more likely to collaborate with others, consider others' perspectives, and enjoy working together. Conversely, individuals with competitive personalities are more likely to strive to outperform others, leverage their potential, and not tolerate failure (Klaus Vedfelt, 2018; Vesely et al., 2020).

This study aimed to adapt the CCPS and examine its psychometric properties in Indonesia, accompanied by evidence of validity and reliability. This study is important because it is crucial to create an Indonesian version to ensure that the final translation of the scale reflects linguistic accuracy and considers the cultural context (Akhtar & Azwar, 2019). Cultural factors, language differences, and social norms can influence how individuals interpret and respond to items (Mushquash & Bova, 2007). Therefore, an adaptation process that considers these factors is necessary to ensure that it effectively captures intended constructs in the Indonesian context. In the future, this tool can be used to identify personality types when interacting in various contexts related to cooperative or competitive behaviour.

METHOD

Participants

Power statistical analyses were employed to ascertain the requisite sample size, utilizing an effect size of 0.2 and an alpha significance level of 0.05. GPower was utilized to determine the necessary sample size to achieve a statistical power of 0.95. The findings suggest that a minimum of 314 participants is necessary for the study.

The participants in this study were 720 students from Universitas Jenderal Achmad Yani (male=187; M=19.76; SD=1.23, female=533; M=19.74; SD=1.24) recruited using a two-stage cluster sampling method. The age range of the participants was 18-22 years (M=19.736 ± 1.239 SD), with most participants being female (74%).

The participants were from various academic disciplines: Health Sciences (Faculty of Medicine=119 and Faculty of Pharmacy=119), Engineering (Faculty of Engineering=106), and Social Sciences (Faculty of Psychology=142, Faculty of Economics=117, and Faculty of Social and Political Sciences=117). The participants' educational levels varied, with students currently in their second semester (n=217), fourth semester (n=276), sixth semester (n=106), and eighth semester (n=121).

Table 1.
Sample Distribution

Faculty	Male			Female			Total		
	f (%)	Mage	SD	f (%)	Mage	SD	f (%)	Mage	SD
Medicine	35 (18,72)	19,8	1,2	84 (15,76)	19,7	1,2	119 (16,53)	19,74	1,24
Pharmacy	28 (14,97)			91 (17,07)			119 (16,53)		
Engineering	20 (10,70)			86 (16,14)			106 (14,72)		
Psychology	44 (23,53)			98 (18,39)			142 (19,72)		
Economics	25 (13,37)			92 (17,26)			117 (16,52)		
Social and Political Sciences	35 (18,72)			82 (15,38)			117 (16,52)		
Total	187 (100)			533 (100)			720 (100)		

Source: primary data

Intruments

Cooperative and Competitive Personality Scale (CCPS)

The Cooperative and Competitive Scale measures two personality factors: cooperative and competitive (S. Lu et al. (2013). An example translation for the cooperative factor (item 1, is " Agar berhasil ditempat bekerja, seseorang harus bekerja sama dengan rekan kerjanya" (Working cooperatively with coworkers is essential for success in the workplace). For the competitive factor, item 1 is "Saya menyukai kompetisi karena memberikan kesempatan bagi saya untuk menemukan potensi diri" (I enjoy competition because it allows me to explore my own abilities). There were 23 items in the CCPS. A seven-point Likert scale was used for the CCPS. The CCPS was selected for adaptation because it is a relatively new approach for measuring cooperative and competitive personality factors. The reliability of the CCPS, as reported in several studies, has an α=0.85–0.87 for the cooperative factor and an α=0.71–0.79 for the competitive factor (X.-P. Chen et al., 2011; Xiaofei et al. (2006). In this study, the cooperative factor achieved α=0.934 and ω=0.933, whereas the competitive factor yielded α=0.884 and ω=0.831.

Big Five Personality Inventory 50 (BFI-50)

The BFI-50 measure extraversion, agreeableness, conscientiousness, emotional stability, and intellect (Goldberg, 1992). It has 50 items that are brief phrases rated on a 5-point Likert scale. This study used the BFI-50 according to Akhtar (Akhtar & Azwar, 2019), which was adapted to Indonesia with α=0.762-0.862. The BFI-50 was chosen as a measurement tool for validity evidence owing to its well-constructed nature, extensive use in psychological research, and adaptation to Indonesian culture. In this study, BFI-50 achieved α=0.854 and ω=0.850.

Prosocial for Adults (PSA)

The Prosocial for Adults Scale assesses prosocial behaviour (Caprara et al., 2005). Sixteen items on this scale measure four subscales: sharing, assisting, caring, and empathy. The PSA was assessed using a 5-point Likert scale. In this study, we used the PSA adapted by Sefianmi into Indonesian with α=0.841 (Sefianmi et al., 2023). The PSA was chosen as a measurement tool for validity evidence because of its specific measurement of prosocial behaviour. In this study, PSA achieved α=0.905 and ω=0.921.

Prosocial Tendencies Measure (PTM)

The Prosocial Tendency Measure Scale assesses prosocial behaviour (Carlo & Randall, 2002). The PTM consists of twenty-three items measuring six dimensions: altruism, anonymity, compliance, dire, emotion, and public. A 5-point Likert scale was used for the PTM. In this study, we used the PTM adapted by Armadhita in Indonesia with α=0.881 (Armadhita et al., 2021). The PTM was chosen as a measurement tool for validity evidence because it specifically measures prosocial behaviour tendencies. In this study, PTM achieved α=0.851 and ω=0.859. Describe the instruments examined in the study. Inform the readers about the theory used, how many dimensions/aspects/items. Depict the procedure of scoring.

Data Collection

This research received ethical approval from the Research Ethics Committee of the Konsorsium Psikologi Ilmiah Nusantara (No.010/2023 Ethics/KPIN). The adaptation of the CCPS into Indonesian was conducted in accordance with the International Test Commission guidelines (International Test Commission, 2016). These steps included: (1) pre-conditioning, (2) development test, (3) confirmation, (4) administration, (5) scoring and scale interpretation, and (7) documentation. The first three steps were completed in this study. In the pre-condition stage, the researchers obtained permission from the developers of the CCPS to adapt it to the Indonesian version.

The researchers conducted a cross-cultural adaptation in the development test stage, starting with three experts' forward translations from English to Indonesian. The translators were professional with English-speaking backgrounds. The researchers discussed and reviewed the translated texts in the translation review stage. The best item was selected after each translated item was completed. The selected items were reviewed by an expert team consisting of a methodology expert, two psychology researchers, a language expert, and translators. This expert team reviewed the forward and backwards translations to finalise an accurate and comprehensible Indonesian version of the CCPS.

In the confirmation stage, the Indonesian version of the CCPS was tested using a large sample of 720 participants, along with the BFI-50, PSA, and PTM. After a month, the subjects were given the scale again to check their temporal stability. Overall, these actions ensured that the CCPS was appropriately and accurately validated and adapted for use in Indonesia

Data Analysis

Descriptive statistics were used to describe sociodemographic characteristics. The reliability of the Indonesian version of the CCPS was assessed using Alpha Cronbach's (α), Omega McDonald's (ω), and test-retest reliability. Convergent validity was investigated by measuring the Pearson correlation coefficients between the Indonesian CCPS and BFI-50, PSA, and PTM. The Indonesian CCPS factor structure was assessed

using confirmatory factor analysis (CFA) to verify the factor structure of a set of observed variables. CFA allows researchers to test the hypothesis of a relationship between the observed variables and the underlying latent constructs (Hair et al., 2019). Statistical analysis was performed using JASP version 0.18.3.0.

RESULT AND DISCUSSION

Descriptive Statistic

Below is an overview of cooperative and competitive personality factors based on measurements from the Indonesian version of the CCPS. It was found that 349 participants (48%) were cooperative and 371 participants (52%) were competitive. Overall, the participants exhibited competitive traits. Comparing cooperative and competitive traits based on gender, it was found that for the cooperative type, females were more cooperative (39.21±11.70) than males (39.12±11.72). For the competitive type, females were more competitive (40.60±12.40) than males (40.55±12.47).

Table 2.
Descriptive Statistics

Factor		Mean	SD	f	%
Cooperative					
	Male	39,12	11,72	94	27
	Female	39,21	11,70	255	73
				349	48
Competitive					
	Male	40,55	12,47	93	25
	Female	40,60	12,40	278	75
				371	52

Source: primary data

Reliability

Reliability testing was conducted to evaluate internal consistency with Cronbach's alpha (α) and McDonald's omega (ω), assessing construct reliability using composite reliability (CR), evaluating convergent validity with Average Variance Extracted (AVE), and testing the stability of the instrument with test-retest reliability. Cronbach's Alpha and McDonald's Omega were used to show how well the items in the instrument correlated with each other and collectively measured the same concept. Benchmarks for Cronbach's alpha and McDonald's omega were considered reliable if they were ≥ 0.7 (Hair et al., 2019). CR indicates how well the indicators of a construct collectively measure it. The benchmark for CR was considered good if it was≥ 0.5 (Hair et al., 2019). AVE was used to demonstrate convergent validity. The benchmark for AVE is considered good if it is ≥ 0.5 (Hair et al., 2019). A test-retest was conducted to measure instrument consistency over time.

The results of the study showed that the internal consistency for the cooperative factor was α=0.934 and ω=0.933, while for the competitive factor was α=0.884 and ω=0.831. This indicates that the internal consistency of the cooperative and competitive factors was good. In the CR and AVE tests, the results showed that the cooperative factor had a CR between 0.980 and 0.990, with an AVE between 0.927 and 0.951, whereas for

the competitive factor, the CR was between 0.957 and 0.986, with an AVE between 0.883 and 0.947. This finding suggests strong reliability and convergent validity for cooperative and competitive factor constructs (Hair et al., 2019). This indicates that the relevant items consistently measured the construct. These findings demonstrate that the Indonesian version of the CCPS has excellent validity and reliability. The test-retest reliability of the instrument was high, with correlations of 0.978 for the cooperative factor and 0.984 for the competitive factor. The high correlation indicates that this instrument provides consistent results over one month. The test-retest range with a 1-month interval was conducted to avoid memory effects (Cohen et al, 2022).

Validity

Three experts conducted the content validity of the Indonesian version of the CCPS. The I-CVI result was > 0.88, which means that the content can be considered good. The construct validity of the Indonesian version of the CCPS was estimated by calculating the correlation between it and instruments with construct similarities, such as the BFI-50, PSA, and PTM.

The results presented in Table 3 show that the cooperative factor had a positive and significant correlation with agreeableness on the BFI-50 ($r=0.606$, $p<0.001$), PSA ($r=0.576$, $p<0.001$), and PTM ($r=0.402$, $p<0.001$). Furthermore, the competitive factor was negatively and significantly correlated with agreeableness on the BFI-50 ($r=-0.378$, $p<0.001$), PSA ($r=-0.361$, $p<0.001$), and PTM ($r=-0.238$, $p<0.001$). Overall, these findings show that the cooperative factor in the Indonesian version of CCPS is related to a person's tendency to be friendly, empathetic, helpful, caring, or cooperative. Conversely, the competitive factor in CCPS is related to a person's tendency to exhibit the opposite traits.

Table 3.
Correlations between the Indonesian version of the CCPS with agreeableness (BFI-50), PSA, and PTM

Factor	N	Variables		
		BFI_Agreeableness	PSA	PTM
Cooperativeness	720	0.606***	0.576***	0.402***
Competitiveness	720	-0.378***	-0.361***	-0.238***

Note. BFI_Agreeableness = Big Five Inventory Agreeableness; PSA=Prosocial for Adults; PTM=Prosocial Tendencies Measure. *p< .05, **p< .01, ***p< .001
Source: primary data

Factor Structure

Confirmatory Factor Analysis (CFA)

CFA was used to test whether the collected data aligned with the hypothesized factor structure. This analysis is commonly used to validate theoretical constructs in instrument adaptation research. The researchers tested two models: a single-factor model and a two-factor model. The maximum likelihood method was used to estimate the model. The outcomes of these models were compared using goodness-of-fit indices, such as chi-square, RMSEA, SRMR, GFI, CFI, and TLI.

Table 4.
Model Fit Indices For 1 Factor Model And 2 Factor Model

Fit Indices	Model 1 1 Factor Model	Model 2 2 Factor Model	Recommended values
λ^2/df	<.001	<.001	> 0.05 (Hu & Bentler, 1999)
RMSEA	0.199	0.07	≤ 0.10 (F. Chen, 2007)
SRMR	0.198	0.04	≤ 0.08 (Hu & Bentler, 1999)
GFI	0.856	0.967	≥ 0.90 (Byrne & Campbell, 1999)
CFI	0.446	0.937	≥ 0.90 (Hu & Bentler, 1999)
TLI	0.391	0.926	≥ 0.80 (Hu & Bentler, 1999)

Note: λ^2/df= normal chi-square; RMSEA=root mean square error of approximation; SRMR=standaridized root mean square residual; GFI=goodness of fit index; CFI=comparative fit index; TLI=Tucker-Lewis Index
Source: primary data

Based on the results presented in Table 4, the one-factor CCPS model was unsuitable because none of the goodness-of-fit indices met the recommended criteria. The goodness-of-fit indices provided better results in the two-factor model. Of the six recommended criteria, only one did not meet the threshold (the normed chi-square criterion. To achieve good goodness-of-fit indices, the p-value for the normed chi-square test should be >0.05, RMSEA ≤0.1, SRMR ≤0.08, GFI ≥0.90, CFI ≥0.90, and TLI ≥0.8. The data showed χ2/df =p< 0.001, RMSEA = 0.07, SRMR = 0.04, GFI = 0.96, CFI = 0.937, and TLI = 0.926. Therefore, overall, the fit index criteria were met, except for the normed chi-square test. The chi-square criterion is highly sensitive to sample size, which can affect the results if the sample size is too small or too large (Stone, 2021). Overall, the two-factor model had a more acceptable fit than the one-factor model.

We then provide evidence based on the internal structure. The researchers used a two-factor CFA model to assess the underlying structure. The cooperation factor was examined using 1-13 (dimension belief item, 1-5, behavior items, 6-10, and affective items, 11-13), while the competitive factor was examined using item 14-23 (dimension belief item, 14-16, behavior item, 17-19, and affective item, 20-23). Hair was used to interpret item quality, indicating that an acceptable standardized loading factor (SLF) is ≥ 0.5 (Hair et al., 2019).

Here, we present the results of the internal structure test and model fit using CFA for the Indonesian version of the CCPS, based on the two-factor model test.

Table 5.
Standardized Loading Factor, Construct Reliability, and Average Variance Extracted CCPS.

Factor	Indicator	p-value	Std. Est. (all)	CR	AVE	Reliability
Cooperative_Belief	Coop1	< .001	0.823	0.990	0.951	α=0.934 ω=0.933
	Coop2		0.905			
	Coop3		0.901			
	Coop4		0.900			
	Coop5		0.746			
Cooperative_Behavior	Coop6	< .001	0.745	0.984	0.927	
	Coop7		0.600			
	Coop8		0.715			
	Coop9		0.758			
	Coop10		0.748			
Cooperative_Affection	Coop11	< .001	0.769	0.980	0.942	
	Coop12		0.825			
	Coop13		0.762			
Competitive_Belief	Comp1	< .001	0.881	0.970	0.914	α=0.884 ω=0.831
	Comp2		0.898			
	Comp3		0.898			
Competitive_Behavior	Comp4	< .001	0.882	0.957	0.833	
	Comp5		0.889			
	Comp6		0.829			
Competitive_Affection	Comp7	< .001	0.906	0.986	0.947	
	Comp8		0.911			
	Comp9		0.856			
	Comp10		0.879			

Note: Coop = Cooperative ; Comp = Competitive
Source: primary data

As shown in Table 5, each item in the cooperative factor had an SLF ranging from 0.600 to 0.905, while each item in the competitive factor had an SLF ranging from 0.829 to 0.911. Therefore, all items in the CCPS have SLF values ≥ 0.5, and it can be stated that the Indonesian version of the CCPS are of good quality**.**

Invariance

Invariance testing was conducted to ensure that the Indonesian version of the CCPS measures the same construct in the same manner across different groups (Dancey & Reidy, 2017; Hair et al., 2019), in this case, by gender. This test used configural, metric,

and scalar invariance to analyze whether cooperative and competitive factor structures were the same for males and females**.**

Table 6.
Measurement Invarians Analysis of the Gender Scale

	TLI	CFI	RMSEA	ΔCFI	ΔRMSEA
Configural	.968	.901	.012	-	-
Metric	.945	.911	.021	.010	.009
Scalar	.960	.915	.002	.004	.001

The scale's configural, metric, and scalar invariance across gender groups was evaluated. The configural invariance results across gender groups indicated good fit indices (TLI=.968, CFI=.901, RMSEA=.012). This indicates that the scale's factor structure is similar for males and females. The metric invariance analysis showed that the change in fit statistics supported the invariance (ΔCFI=.010, ΔRMSEA=.009). Metric invariance means that, in addition to the factor structure, the factor loadings were equivalent across gender groups. The scalar invariance results showed that the changes in CFI and RMSEA were within the acceptable range (ΔCFI=.008, ΔRMSEA=.001). This indicates that both groups understood that the constructs were measured similarly. This result suggests that the Indonesian version of the CCPS works equally well for both male and female respondents

This study aimed to adapt the CCPS to Indonesia. The CCPS classifies an individual's personality profile into two categories: cooperative and competitive. The standard adaptation procedure recommended by the International Test Commission (International Test Commission, 2016) was used to adapt the CCPS to Indonesia.

Based on this analysis, the Indonesian version of the CCPS demonstrated good psychometric properties. The Indonesian version of the CCPS showed strong internal consistency, with α=0.934 and ω=0.933. These results are consistent with previous studies' results, indicating that CCPS has good internal consistency (X.-P. Chen et al., 2011; S. Lu et al. (2013). Furthermore, the test-retest results were satisfactory, with a correlation of r=0.978 for the cooperative factor and r=0.984 for the competitive factor.

To estimate the construct validity of the Indonesian version of the CCPS, the cooperative and competitive factor scores were correlated with the BFI-50, PSA, and PTM. The correlation test results showed that the cooperative factor was positively correlated with agreeableness on the BFI-50 (r=0.606), PSA (r=0.576), and PTM (r=0.402). Strong correlations (r > 0.5) indicate significant clinical impact (Balogun, 2021). Conversely, the competitive factor was negatively correlated with agreeableness on the BFI-50 (r=-0.378), PSA (r=-0.361), and PTM (r=-0.238). These findings suggest that the Indonesian version of the CCPS exhibits good convergent and divergent validity.

This finding is consistent with previous research indicating that cooperative individuals tend to be more cooperative, helpful, empathetic, and less selfish (Guilfoos & Kurtz, 2017; Rammstedt & John, 2017; Van Ryzin et al., 2020). By contrast, competitive individuals tend to be more self-centred, competitive, less empathetic, and more likely to show their superiority (Reig-Aleixandre et al., 2023; Zhan et al., 2023). These findings are consistent with the Chinese adaptation of the CCPS (Lu et al., 2013), but have higher reliability due to collectivist cultural differences. In addition, the findings support Deutsch's (1949) theory that co-operation/competition is influenced by cultural context

CFA was used to assess the factor structure of CCPS in Indonesia. Based on goodness-of-fit indices, the researchers in the CFA investigation contrasted a one-factor model with a two-factor model. The findings demonstrated that the two-factor model, which included both competitive and cooperative factors, was a better fit than the one-factor model. This result aligns with earlier studies that suggested that the two-factor model is appropriate for CCPS (S. Lu et al. (2013). Furthermore, based on the SLF for assessing item quality, it was found that all items in the cooperative and competitive factors had good item quality. The SLF for the cooperative factor ranged from 0.600 to 0.905, while that for the competitive factor ranged from 0.829 to 0.911. Therefore, it can be concluded that the Indonesian version of the CCPS items was of good quality.

The novelty of this study lies in its examination of item invariance based on gender. This invariance testing ensures that the Indonesian version of the CCPS measures the same constructs for males and females. The results showed that all items in the CCPS were highly significant for both sexes. This indicates that the Indonesian version of the CCPS consistently measures cooperative and competitive factors for both males and females.

Limitation

This study developed a measure to assess cooperative and competitive personality factors relevant to the Indonesian context. However, this study has some limitations that should be addressed in future research. The main limitation was that the respondents were only students from a university in Cimahi, West Java, Indonesia. Further research needs to test the stability of the CCPS with the general population, a wider age range, a wider geographical range, and cross-cultural samples in Indonesia. Additionally, there was a reduction in the number of respondents during the test-retest phase, from 720 to 307. Future improvements should focus on increasing participant retention strategies, such as providing additional incentives or reducing the interval between the initial and retest measurements. We hope the Indonesian version of the CCPS will benefit research and other scientific activities.

CONCLUSION

In summary, the adaptation and psychometric assessment of the CCPS in Indonesia demonstrate that it is a valid and reliable measure with excellent construct validity and internal consistency. The two-factor model of the Indonesian version of the CCPS is consistent with that of the original construct. The study results showed good item quality and the ability to accurately measure cooperative and competitive factors. Additionally, the Indonesian version of the CCPS avoids gender bias; therefore, it can be used for both men and women. The Indonesian version of the CCPS is a valuable addition to measures for assessing cooperative and competitive factors. It can be used by researchers and practitioners in psychology, education, health, and human resource development, and teachers and counsellors can also use it to identify students who need teamwork training.

RFERENCES

Akhtar, H., & Azwar, S. (2019). Indonesian Adaptation and Psychometric Properties Evaluation of the Big Five Personality Inventory: IPIP-BFM-50. Jurnal Psikologi, 46(1), 32. https://doi.org/10.22146/jpsi.33571

Amalia, I. (2023). Kebutuhan Model Pembelajaran Kooperatif Menulis Akademik dengan Pendekatan Proses. Jurnal Imiah Pendidikan Dan Pembelajaran, 7(2), 257–265. https://doi.org/10.23887/jipp.v7i2.57969

Armadhita, N., Noer, A. H., & Wungu, E. (2021). Adaptasi alat ukur prosocial tendencies measure (PTM) versi bahasa Indonesia pada anak usia sekolah di Bandung. Jurnal Ilmiah Psikologi Terapan. 9(1), 39. https://doi.org/10.22219/jipt.v9i1.12704

Aryaningtyas, A. T., Maria Th, A. D., & Aprilliyani, R. (2020). Meningkatkan Kreativitas Kinerja Karyawan Hotel: Dukungan Kepribadian, Emosional, dan Lingkungan. J-MAS (Jurnal Manajemen Dan Sains), 5(1), 136. https://doi.org/10.33087/jmas.v5i1.161

Balogun, J. A. (2021). Evaluation of Clinical Significance in Intervention Research. In F. Okonofua, J. A. Balogun, K. Odunsi, & V. N. Chilaka (Eds.), Contemporary Obstetrics and Gynecology for Developing Countries (pp. 747–759). Springer International Publishing. https://doi.org/10.1007/978-3-030-75385-6_67

Byrne, B. M., and T. L. (1999). Cross-cultural comparisons and the presumption of equivalent measurement and theoretical structure: A look beneath the surface. Journal of Cross-Cultural Psychology, 30(5), 555–574. https://doi.org/10.1177/0022022199030005001

Caprara, G. V., P. Steca, A. Zelli, A., & Capanna, C. (2005). A new scale for measuring adults' prosocialness. European Journal of Psychological Assessment, 21(2), 77–89. doi:10.1027/1015-5759.21.2.77

Carlo, G., & Randall, B. A. (2002). Development of a measure of prosocial behaviors for late adolescents. Journal of Youth and Adolescence, 31(1), 31–44. https://doi.org/10.1023/A:1014033032440

Chen, F. (2007). Sensitivity of goodness-of-fit indexes to lack of measurement invariance. Structural Equation Modeling, 14(3), 464–504. https://doi.org/10.1080/10705510701301834

Chen, X.-P., Xie, X. and Chang, S. (2011). Cooperative and Competitive Orientations among Chinese People: Scale Development and Validation. Management and Organization Review, 7(1), doi:10.1111/j.1740-8784.2011.00215.x

Cohen, R. J., Schneider, W. Joel, & Tobin Renee M. (2022). Psychological testing and assessment: An introduction to tests and measurement (10th ed.). McGraw-Hill Education

Dancey, C. and Reidy, J. (2017). Statistics without math for psychology. In Book (7th ed.). Pearson Education Limited.

Deutsch, M. (1949). A Theory of Co-operation and Competition. Human Relations, 2(2), 129–152. https://doi.org/10.1177/001872674900200204

Elvara Arlianda and Dewi Rosiana. (2022). Pengaruh Insitusional Trust terhadap Perilaku Kooperatif dalam Penerapan Protokol Kesehatan. Bandung Conference Series: Psychology Science, 2(1). doi:10.29313/bcsps.v2i1.1161

Eriksson, M., Kenward, B., Poom, L., & Stenberg, G. (2021). The behavioral effects of cooperative and competitive board games in preschoolers. Scandinavian Journal of Psychology, 62(3), 355–364. https://doi.org/10.1111/sjop.12708

Fehl, K., van der Post, D. J., & Semmann, D. (2011). Co-evolution of behavior and social network structure promotes human cooperation. Ecology Letters, 14(6), 546–551. https://doi.org/10.1111/j.1461-0248.2011.01615.x

Goldberg, L. R. (1992). Development of Markers for the Big-Five Factor Structure. In Psychological Assessment (Vol. 4, Issue 1).

Griffin-Pierson, S. (1990). Competitiveness Questionnaire: A Measure of Two Components of Competitiveness. Measurement and Evaluation in Counseling and Development, 23.

Guilfoos, T., and Kurtz, K. J. (2017). Evaluating the role of personality trait information in social dilemmas. Journal of Behavioral and Experimental Economics 68, 119–129. https://doi.org/10.1016/j.socec.2017.04.006

Hair, W. C., Babin, B. J., Anderson, R. E., Black, W. C., Anderson, R. E. (2019). Multivariate Data Analysis (Eight Edit). Cencage Learning.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation Modeling: A Multidisciplinary Journal, 6(1), 1–55. https://doi.org/10.1080/10705519909540118

Indri, M., Milfayetty, S. and Astuti, R. (2022). Pengembangan Perilaku Sosial Anak, Dan Sikap Kooperatif Melalui Permainan Tradisional Tam Tam Buku. Tabularasa: Jurnal Ilmiah Magister Psikologi, 4(1), 44–52. https://doi.org/10.31289/tabularasa.v4i1.945

International Test Commission. (2016). ITC guidelines for translating and adaptation test (second edition) (Second). https://doi.org/10.1111/j.1464-0597.1975.tb00322.x

Kalra, A., R. Agnihotri, S. Talwar, A. Rostami, and P. K. (2021). Effects of an internal competitive work environment on working smart and emotional exhaustion: the moderating role of time management. Journal of Business and Industrial Marketing, 36(2), 269–280. https://doi.org/10.1108/JBIM-02-2019-0094

Klaus Vedfelt. (2018). The cooperative human. Nature Human Behavior, 2(7), 427–428. https://doi.org/10.1038/s41562-018-0389-1

Landkammer, F., Winter, K., Thiel, A., & Sassenberg, K. (2019). Team Sports Off the Field: Competing Excludes Individual Cooperation but Not for Team Athletes. Frontiers in Psychology, 10. doi:10.3389/fpsyg.2019.02470

Lee, M., Ahn, H. S., Kwon, S. K., & Kim, S. Il. (2018). Cooperative and Competitive Contextual Effects on Social Cognitive and Empathic Neural Responses. Frontiers in Human Neuroscience, 12. https://doi.org/10.3389/fnhum.2018.00218

Li, D., Yang, Z., Ma, P., & Chen, H. (2022). Cooperation and competition among subsidiaries in a business group: their impacts on innovation. Management Decision, 60(6), 1662–1682. https://doi.org/10.1108/MD-12-2020-1692

Lu, L., & Argyle, M. (1991). Happiness and cooperation. Personality and Individual Differences, 12(10), 1019–1030. https://doi.org/https://doi.org/10.1016/0191-8869(91)90032-7

Lu, S., Au, W.-T., Jiang, F., Xie, X., & Yam, P. (2013). Cooperativeness and competitiveness as two distinct constructs : Validating the Cooperative. International Journal of Psychology, 48(6), 1135–1147.

Mushquash, C.J. and Bova, D. L. (2007). Cross-Cultural Assessment and Measurement Issues. Journal on Developmental Disabilities, 13(1), 53–66.

Ömüriş, E., Erdem, F., & Özen Aytemur, J. (2020). The relationship between cooperative and competitive behavioral tendencies and trust in coworkers. Evidence-Based HRM, 8(3), 345–360. https://doi.org/10.1108/EBHRM-03-2020-0034

Parks, C. D., Xu, X., & Van Lange, P. A. M. (2015). Do information about others' behaviors undermine cooperation in social dilemmas? Group Processes and Intergroup Relations, 20(2), 260–274. https://doi.org/10.1177/1368430215612220

Rammstedt, B., & John, O. P. (2017). Big Five Inventory. In V. Zeigler-Hill & T. K. Shackelford (Eds.), Encyclopedia of Personality and Individual Differences (pp. 1–4). Springer International Publishing. https://doi.org/10.1007/978-3-319-28099-8_445-1

Reig-Aleixandre, N., Esparza-Reig, J., Martí-Vilar, M., Merino-Soto, C., & Livia, J. (2023). Measurement of Prosocial Tendencies: Meta-Analysis of the Generalization of the Reliability of the Instrument. In Health care (Switzerland) (Vol. 11, Issue 4). MDPI. https://doi.org/10.3390/healthcare11040560

Sefianmi, D., Purnama, C. Y., & Setyadiredja, A. N. (2023). Adaptasi skala prosocialness for adult versi bahasa indonesia. Jurnal Psikologi, 16(1), 63–74. https://doi.org/10.35760/psi.2023.v16i1.7284

Simmons, C. H., Wehner, E. A., Tucker, S. S., and King, C. S. (1988). The Cooperative/Competitive Strategy Scale: A Measure of Motivation to Use Cooperative or Competitive Strategies for Success. Journal of Social Psychology, 128, 199–205. https://api.semanticscholar.org/CorpusID:143380076

Stone, B. M. (2021). Ethical Use of Fit Indices in Structural Equation Modeling: Recommendations for Psychologists. Frontiers in Psychology, 12. https://doi.org/10.3389/fpsyg.2021.783226

Tang, J. (2006). Competition and innovation behavior. Research Policy, 35(1), 68–82. https://doi.org/10.1016/j.respol.2005.08.004

Tauer, J. M., and Harackiewicz, J. M. (2004). The effects of cooperation and competition on intrinsic motivation and performance. Journal of Personality and Social Psychology, 86(6), 849–861. doi:10.1037/0022-3514.86.6.849

Van Gerwen, N., Buskens, V. and van der Lippe, T. (2018). Individual training and cooperative behavior among employees: Evidence from a contextualized laboratory experiment. Rationality and Society, 30(4), 432–462. https://doi.org/10.1177/1043463118771428

Van Lange, J., Parks, C. D., & Van Dijk, E. (2013). Psychological dilemmas: A review. Organizational Behavior and Human Decision Processes, 120(2), 125–141. https://doi.org/10.1016/j.obhdp.2012.11.003

Van Ryzin, M. J., Roseth, C. J., & Biglan, A. (2020). The Mediators of the Effects of Cooperative Learning on Prosocial Behavior in Middle School. International Journal of Applied Positive Psychology, 5(1–2), 37–52. https://doi.org/10.1007/s41042-020-00026-8

Vesely, S., Klöckner, C. A., & Brick, C. (2020). Pro-environmental behavior as a signal of cooperativeness: Evidence from a social dilemma experiment. Journal of Environmental Psychology, 67(July 2019), 101362. https://doi.org/10.1016/j.jenvp.2019.101362

Xiaofei, X., Yuanyuan, Y., Xi, C., & Xiaoping, C. (2006). The Measurement of Cooperative and Competitive Personality. Acta Psychologica Sinica. 38(1), 116–125.

Zhan, Q., Wang, S., Li, C., Li, M., Liu, D., Peng, W., Song, F., Shi, T., & Li, Y. (2023). Revision and validation of the prosocialness scale for adults (PSA) among Chinese college students. BMC Psychol. 11(1). https://doi.org/10.1186/s40359-023-01124-3