Cross-Cultural Adaptation and Validation of the Social Context Cannabis Scale

Safia Ashfaq [*]   Kehkashan Arouj [†]

Corresponding Author: Safia Ashfaq (PhD Scholar, Department of Psychology, International Islamic University Islamabad. Pakistan. Email: maina821@gmail.com)

Abstract: *The objective of the present study was to cross-culturally adapt and validate the SCCS among individuals from various cultural backgrounds. A study was conducted with a sample size of 300 individuals, whose ages ranged from 18 to over 40 years old, and who had attained at least a secondary school education level. A multi-step process was utilized to conduct the study, which aimed to ensure that the current scale is culturally appropriate for the target population. The results of the confirmatory factor analysis (CFA) indicated a significant correlation between the items, as evidenced by the high factor loadings and communalities. These findings suggest that the items share a common variance across all three factors. Based on the current results, it can be concluded that the Urdu-translated version of SCCS is a valid and reliable tool for assessing cannabis use in various socio-cultural contexts.*

Key Words: Cross-Cultural Adaptation, Validation, Social Context

Introduction

Cannabis Use Disorder (CUD) is a clinical condition that can lead to problematic impairment, causing negative consequences and withdrawal symptoms in affected individuals. Excessive cannabis use is a serious health concern worldwide, particularly in developing countries like Pakistan, and can cause significant social, occupational, and psychological problems. Individuals with cannabis use disorder may experience poor academic performance, difficulties in relationships, cognitive impairment, and financial and adjustment problems. The National Institute on Drug Abuse reports that Cannabis Use Disorder (CUD) is characterized as cannabis addiction or marijuana addiction, is characterized by continued cannabis use (Han et al., 2017). Additionally, a comparable investigation carried out in Pakistan in 2013 found that approximately 4.25 million individuals were affected by substance dependence, out of which 1.6 million were engaging in non-medical use of prescribed opioids. The United Nations Office on Drugs and Crime states that Pakistan ranks among the top 10 countries in terms of the use of both prescribed and non-prescribed opioids and opiates by the population. (Zaman & Irfan, 2020). Long-term cannabis use leads to changes in the body's pharmacodynamics and pharmacokinetic interactions with the substance, affecting its absorption, distribution, metabolism, and excretion, as well as its interactions with target cells. These modifications strengthen the body's metabolic systems. Enhancing the body's

---

[*] PhD Scholar, Department of Psychology, International Islamic University Islamabad. Pakistan.

[†] Assistant Professor, Department of Psychology, International Islamic University Islamabad. Pakistan.

ability to metabolize the drug more effectively, decreasing the activity of cannabinoid receptors within the brain, and necessitating larger quantities of the substance to induce the desirable outcome commonly referred to as increased tolerance (Ashton, 2001).

Increasing and prolonged use of cannabis can lead to cannabis addiction. This dependency often results from escalating the cannabis dosage and using more potent delivery methods. Another contributing factor may be a genetic or acquired predisposition to substance addiction (Coffey et al., 2003). Long-term research studies, conducted over a span of years, have provided researchers with the opportunity to investigate the correlation between cannabis use and social as well as psychological development. Certain traits are believed to increase the likelihood of developing cannabis dependence. The frequency and age of cannabis use have been linked to a rise in associated problems, with young and frequent users being at higher risk (Mair et al., 2015)

The usage of cannabis is often linked with co-morbid psychological disorders, including depression, anxiety, and stress, and cessation of cannabis use can be difficult for some individuals (Danovitch & Gorelick, 2012). Moreover, cannabis use is commonly observed alongside psychiatric comorbidities, including various personality disorders (Dervaux et al., 2014). Drug use is often observed in social settings, such as parties or gatherings with friends. Cannabis and other substances have been found to enhance the enjoyment of socializing by improving social interactions or reducing negative emotions like social anxiety. Conversely, social settings can also influence drug effects on individuals. The presence of others can affect the way people react to drugs, leading to increased use. Social environments can impact the effects of alcohol and other drugs, even if drug use is not present. (Belendiuk et al., 2015; Buckner et al., 2012)

The social context pertains to the surrounding environmental, temporal, and motivational elements that impact substance use behaviour. (Bickel et al., 2014; Tarter, 2002). In a 2018 study, de Wit and Sayette (2018) investigated two important drivers of substance abuse. Firstly, the impact of drugs on social cues or interactions. Secondly, the influence of social context on drug response. Although these factors are intertwined and interdependent in real-world

situations, careful research can reveal some of the underlying mechanisms of these complex bidirectional relationships. According to a qualitative study conducted in Pakistan, individuals who used opioids experienced increased conflicts over property, poor relationships, lack of social support, and family problems. The study also found that the individual's mental health, including feelings of hopelessness, curiosity, mistrust, and disinterest in social activities, was the primary cause of opioid addiction (Zaman et al., 2020). Another study conducted in Pakistan found that the most commonly used drug was cannabis at a rate of 29.2%, followed by cigarettes at 26.1%. The primary reasons for initiating substance use were peer pressure, enjoyment, having fun, and family conflicts (Zaman et al., 2022).

The emotional tone and nature of social situations can have an impact on how drugs interact with them. The impact of social settings on the effects of drugs, including alcohol, cannot be underestimated. Positive social situations, such as spending time with friends, may intensify the mood-enhancing effects of drugs, while negative or stressful social situations, such as job interviews, may decrease their euphoric effects. Conversely, some drugs may alleviate anxiety in negative social situations, which may make them more appealing to users. However, real-life social situations are often a blend of positive and negative emotional cues, which makes it challenging to differentiate these factors in non-controlled settings (de Wit & Sayette, 2018).

Method and Materials

The purpose of this study was to validate the Social Context Cannabis Scale (SCCS) by cross-culturally adapting it and administering it to a sample of 300 participants. The SCCS was translated into the target language of Urdu and reviewed by experts to ensure semantic and conceptual equivalence before being administered to participants who completed questionnaires related to social context and cannabis use. The social aspects of cannabis use involved the creation of aimed at comprehensively measuring the different scenarios and motives for consuming cannabis. The items were formulated by drawing upon the Social Context of Cannabis Scales, and participants were instructed to indicate the frequency of their cannabis use using a rating

scale that ranged from "never" 0 to "seldom" 1 "occasionally" 2, and "frequently" 3 (Beck et al., 2009b). Data analysis was performed using SPSS and Analysis of Moment Structure (AMOS. Confirmatory Factor Analysis (CFA) was conducted to assess the construct validity of the translated scale. While Exploratory Factor Analysis (EFA) was employed to determine the factor loading. Cronbach's alpha coefficient was employed to examine the internal consistency of the scale.

Translation and Validation of Social Context of Cannabis Scale

Selecting an appropriate scale or measure to assess psychological dimensions of interest is a major concern in psychology research. A thorough review of existing measures can help simplify the process of selecting a scale with appropriate psychometric properties. However, if the scale is a self-rating tool, it may not be available in regional languages, which is a necessity. In such cases, a standardized protocol such as the World Health Organization's forward translation and reverse translation technique may be used to "translate" the tool (Menon & Praharaj, 2019). Thus, the aim of this study was to perform a translation and validation of SCCUS, as developed by Beck et al. (2009a). Brislin (1970), recommended four conventional methods, namely back-translation, bilingual technique, committee or expert team approach, and pretest procedure, to ensure the equivalence between the original and translated measures. These methods were employed in this study to ensure the validity of the translated SCCUS.

Step I: Translation of the original scale from English to Urdu

In the first step, the original scale in English was translated into Urdu. Four bilingual experts were recruited to conduct forward translation by translating the items of the scale word-for-word from English to Urdu. These experts were proficient in both English and Urdu and were instructed to work independently to avoid any influence on each other's translations. They were also briefed about the study and the translation's

purpose, and a consent letter was shared with them.

Step II: Expert Panel Review of the Translation

An expert panel consisting of four mental health professionals was formed to review the forward translation. The Urdu-translated version of the scale was thoroughly evaluated and compared with the original English version. After careful consideration of each item, the committee selected only those items that closely matched the meaning and context of the original scale. The forward translation was then assessed for semantic equivalence and precision. Following this, the backward translation process was initiated, with two new experts tasked with translating the Urdu version back to English.
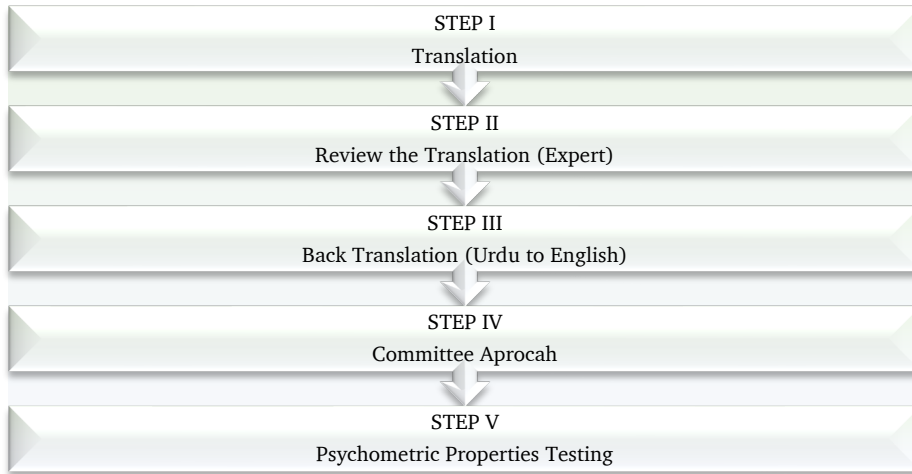
Step III: Backward Translation from Urdu to English

After undergoing a review by an expert panel, the Urdu-translated version of the Social Context Cannabis Use Scale was back-translated into English. The four bilingual experts who performed the backward translation were unfamiliar with the English version and were instructed to translate the Urdu version into English using the same guidelines as in the forward translation process.

Step IV: Expert Committee Review

The same committee of four experts who reviewed the forward translation were asked to examine the back-translated version and the Urdu version. They carefully compared and evaluated the structure, wording, sentence formation, and grammatical errors of both translations, ensuring a clear understanding and contextual meaning.

Step V: Tryout

To evaluate the understanding of each item in the pre-final version of the translated instruments, a tryout was conducted. Following the tryout, the reliability and psychometric properties of the translated scale were evaluated through confirmatory factor analysis (CFA & EFA)

Figure 1

Translation Process

STEP I
Translation

↓

STEP II
Review the Translation (Expert)

↓

STEP III
Back Translation (Urdu to English)

↓

STEP IV
Committee Aprocah

↓

STEP V
Psychometric Properties Testing

Sample

The present study collected data from 300 male cannabis addicts in Islamabad and Rawalpindi through purposive sampling. The sample included individuals between the ages of 20 and 50 who met the diagnostic criteria for cannabis dependence as per the Diagnostic and Statistical Manual of Mental Disorders (Regier et al., 2013).

Individuals with severe psychopathological conditions (e.g., dementia, schizophrenia) and those with a primary diagnosis of a different psychoactive substance were excluded from the study. The sample was selected from various treatment and rehabilitation centres for addiction treatment to establish the psychometric properties of the translated scale.

Table 1

Sociodemographic characteristics of the participants for the Social Context Cannabis Use Scale (SCCUS) (N=300)

Demographic Variables	*n*	%
Age		
18-29	181	60.3
30-39	89	29.7
Above 40	30	10.0
Education		
Up to Matric	163	54.3
Matric and Above	137	45.7
Occupation		
Employed	98	32.7
Unemployed	106	35.3
Student	96	32.0

Note. Age mean=1.50 (SD=.672), Education mean=1.46 (SD=.499), Occupation mean=1.97 (SD=.821)

Table 1 shows the sociodemographic characteristics of the participants including their age, education, and gender. The frequency distribution reveals that the majority of the participants (60%) fell in the age range of 18-29 years. Regarding education, more than half of the participants (54.3%) had up to a matric level of education.

Table 2

Psychometric properties of the Social Context Cannabis Use Scale (SCCUS), and its subscales (N=300)

Scales	K	M	SD	Range	Skewness	Kurtosis	Cronbach's α
SCCUS	24	64.63	10.95	1.99-3.22	-.157	1.874	.84
SF	13	36.93	6.67	2.48-3.22	-.248	1.429	.80
PA	5	12.96	3.53	2.26-3.02	.275	-.278	.71
EP	3	7.77	1.98	2.33-2.93	-.080	-.305	.32
SS	3	6.96	1.89	1.98-2.74	.388	-.111	.20

Note. SCCUS (Social Context Cannabis Use Scale), SF (Social Facilitation), PA (Peer Acceptance), EP (Emotional Pain), SS (Sex Seeking)

Table 2 presents Cronbach's alpha reliability analysis results for the Social Context Cannabis Use Scale (SCCUS). The overall Cronbach's alpha reliability coefficient for the scale is high, indicating a strong internal consistency (r=.84). However, the sub-scales of SCCUS, such as Social Facilitation, Peer Acceptance, Emotional Pain, and Sex Seeking, have different reliability values of .80, .71, .32, and .20, respectively. The lower reliability values for Emotional Pain and Sex Seeking subscales can be attributed to their smaller number of items. The present study utilized the Principle Component Method of Exploratory Factor Analysis (EFA) to investigate the factor structure of the Translated SCCUS, which is being implemented in the Urdu language for the first time in Pakistan. Therefore, it was crucial to examine its factor structure in the context of Pakistani culture and the Urdu language.

Table 3

Factor Loadings of the Items in the Social Context Cannabis Scale Obtained through Principal Component Factor Analysis (N = 300)

Items	Loadings			Communalities
	Factor- 1	Factor- 2	Factor- 3	
SCCS20	0.71			0.46
SCCS11	0.66		0.3	0.45
SCCS5	0.66			0.5
SCCS17	0.63			0.58
SCCS16	0.61			0.69
SCCS9	0.6			0.62
SCCS18	0.5			0.73
SCCS14	0.41			0.79
SCCS19	0.39			0.81
SCCS22	0.36			0.83
SCCS15	0.32			0.83
SCCS8		0.77		0.39
SCCS4		0.67		0.5
SCCS12		0.64	-0.42	0.39
SCCS1		0.58		0.58
SCCS3		0.54		0.68
SCCS10		0.52		0.69
SCCS7		0.42		0.75
SCCS23		0.33		0.81
SCCS24				0.87
SCCS21				0.91
SCCS2	0.38		0.65	0.42
SCCS13	0.42		-0.32	0.37

SCCS6	0.47	0.61	0.4

Variance Explained by Factor

	Variance Explained	Cumulative Variance
Factor 1	17.14971	17.14971
Factor 2	12.82109	2.9.97081
Factor 3	7.10896	37.07976

To validate the Social Context Cannabis Scale (SCCS) and its structure, exploratory factor analysis was performed on an instrument. The method of principal axis factoring extraction, using principal component analysis and varimax rotation, was utilized. The results are presented in Table 3, which revealed three factors that accounted for 38% of the variance across all variables and items. Factor 1, named Social Facilitation, included 14 items that explained emotions such as interpersonal relationships and accounted for 17% of the variance. Factor 2, labelled as Peer Acceptance, explained 12% of the variance and included 8 items related to emotions/feelings of relationships. Factor 3, which encompasses six items related to emotions such as pain, has been named Emotional Pain and accounts for 7% of the variance in the dataset. The cumulative variance of all three factors is 37%.

To verify that the set of variables is suitable for structure detection, Bartlett's test of Sphericity tests the hypothesis that the correlation matrix is not an identity matrix, indicating that the variables are related. Both the KMO (Measure of Sampling Adequacy) and Bartlett's Test of Sphericity indicate that the variables are adequately related for factor analysis. While performing CFA and EFA analysis, items that represent weak relations have factor loading values of less than 0.3 and can be excluded on this basis. However, no items in this study had factor loading values below 0.3, and none were excluded for further analysis. Additionally, three items yielded negative values in Factor 3 (-.4 for SCCS12 and -.6 for SCCS13), which indicates reversal behaviour. However, their magnitude and uniqueness were significant, and thus, they were not discarded for further inquiry. The Scree plot confirmed the extraction of the three factors through EFA.

Figure 2

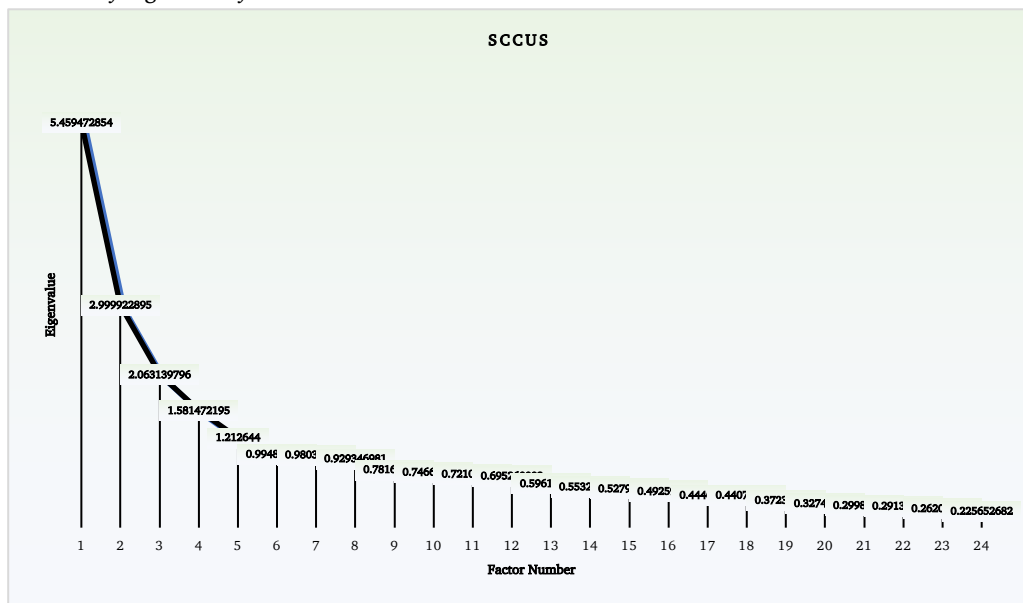*Scree Plot of Eigenvalue for SCCUS*

Figure 3

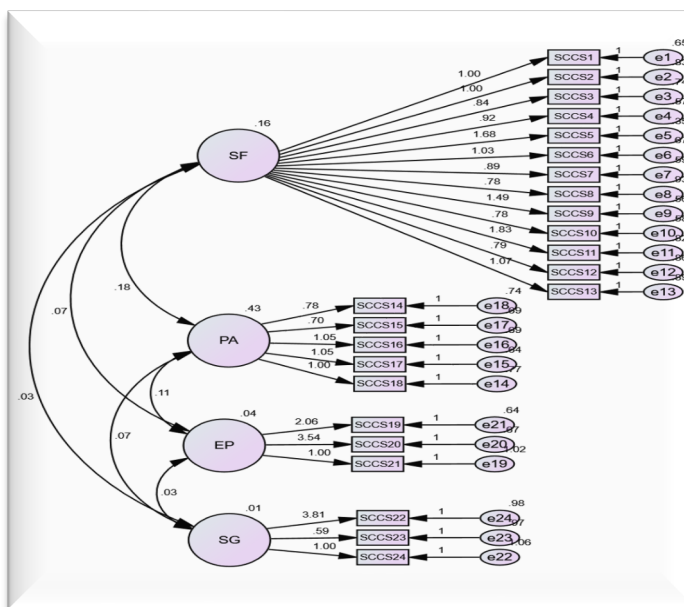*Standardized Factor Loadings in First-Order CFA of the Social Context Cannabis Scale*

Figure 3 displays the standardized factor loadings in the first-order confirmatory factor analysis (CFA) of the Social Context Cannabis Scale. The significance of loading does not necessarily indicate the variable's substantive importance to a factor since it is influenced by the sample size. In larger samples, even small loadings may be considered significant. Therefore, Stevens suggests interpreting factor loadings with an absolute value of at least 0.4, which means that the factor explains roughly 16% of the variance in the variable. However, some researchers may use a lower threshold of 0.3.

Discussion

The primary aim of this research was to culturally adapt and validate the Social Context Cannabis Use Scale through translation. The study involved an expert panel to guarantee the appropriate adaptation of the scale to the target culture, with the objective of minimizing cultural bias and ensuring its suitability in different cultural contexts. To identify the underlying factors of the Social Context Cannabis Scale, both exploratory and confirmatory factor analyses were conducted, and the findings were presented in tabular and graphical formats.

The three factors are distinct and interrelated. Item exclusion can be based on either Cronbach alpha's value or EFA, as done in this study. The items with factor loading values less than 0.3, indicating a weak relationship with the factor, can be discarded during CFA and EFA analysis. However, none of the items in this study had factor loading values less than 0.3, so none were excluded from further analysis. Factor 3 had three items with negative values (-0.4 for SCCS12 and -0.6 for SCCS13), indicating reversed behaviour, but their magnitude and uniqueness were significant. Therefore, these items were also not excluded from further inquiry.

The results of the factor analysis indicate that the items of the Social Context Cannabis Scale are related to three distinct factors, namely Factor 1 (Social Interaction), Factor 2 (Coping), and Factor 3 (Social Facilitation). Nonetheless, the interpretation and definition of these factors could benefit from further examination and refinement through additional analytical methods or theoretical frameworks.

Conclusion

The present study validated the SCCS scale cross-culturally by administering it to a sample of 300 Urdu-speaking participants. The results demonstrated that the SCCS is a reliable and valid

instrument for assessing cannabis users among the Urdu-speaking population in the context of Pakistan.

Limitations

The present study has several limitations. First, the use of convenience sampling may not accurately represent the entire population. Additionally, the data was gathered from a specific region and in a particular language (Urdu), which may limit the generalizability of the findings to other languages and countries. Secondly, the study utilized a self-report scale, which may have introduced response and social desirability biases. In addition, the study did not assess test-retest reliability, which may limit its usefulness in longitudinal studies.

Implication

The translated Urdu version of the SCCS can be a valuable tool for clinicians and researchers in assessing and diagnosing Urdu-speaking populations. The identification of the three factors (social interaction, coping, and social facilitation) can aid in the understanding of the social context of cannabis use and inform intervention plans. This study adds significantly to the literature, particularly in the context of Pakistan.

References

Ashton, C. H. (2001). Pharmacology and effects of cannabis: a brief review. *The British Journal of Psychiatry, 178(*2), 101-106.

Beck, K. H., Caldeira, K. M., Vincent, K. B., O'Grady, K. E., Wish, E. D., & Arria, A. M. (2009a). The social context of cannabis use: Relationship to cannabis use disorders and depressive symptoms among college students. *Addictive Behaviors, 34*(9), 764-768.

Beck, K. H., Caldeira, K. M., Vincent, K. B., O'Grady, K. E., Wish, E. D., & Arria, A. M. J. A. b. (2009b). The social context of cannabis use: Relationship to cannabis use disorders and depressive symptoms among college students. *34*(9), 764-768.

Brislin, R. W. (1970). Back-translation for cross-cultural research. Journal of Cross-Cultural Psychology, 1(3), 185-216.

Buckner, J. D., Crosby, R. D., Wonderlich, S. A., & Schmidt, N. B. (2012). Social anxiety and cannabis use: An analysis from ecological momentary assessment. *Journal of Anxiety Disorders, 26*(2), 297-304.

Coffey, C., Carlin, J. B., Lynskey, M., Li, N., & Patton, G. C. (2003). Adolescent precursors of cannabis dependence: findings from the Victorian Adolescent Health Cohort Study. *The British Journal of Psychiatry, 182*(4), 330-336.

Danovitch, I., & Gorelick, D. A. (2012). State of the art treatments for cannabis dependence. *Psychiatric Clinics, 35*(2), 309-326.

Han, B., Compton, W. M., Jones, C. M., & Blanco, C. (2017). Cannabis use and cannabis use disorders among youth in the United States, 2002-2014. *The Journal of Clinical Psychiatry, 78(*9), 2256.

Menon, V., & Praharaj, S. K. (2019). Translation or development of a rating scale: Plenty of science, a bit of art. Indian Journal of Psychological Medicine, 41(6), 503-506.

Regier, D. A., Kuhl, E. A., & Kupfer, D. J. (2013). The DSM-5: Classification and criteria changes. *World Psychiatry, 12*(2), 92-98. https://doi.org/https://doi.org/10.1002/wps.20050

Tarter, R. E. (2002). Etiology of adolescent substance abuse: A developmental perspective. *American Journal on Addictions, 11*(3), 171-191.

Zaman, S., & Irfan, S. (2020). Surging use of prescribed opioids among the Pakistani population. JPMA. *The Journal of the Pakistan Medical Association, 70*(7), 1294-1294.

Zaman, S., Irfan, S., Hussain, B., Nawaz, M. T., & Khalid, S. (2020). Cross-cultural insights on lived experiences of opioid users among young adults. Drugs and Alcohol Today, 20(2), 85-93. https://doi.org/10.1108/DAT-03-2020-0014