

Short communication

Language influences perception of impulsive tendencies of depressed individuals

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ABSTRACT

Background: Impulsivity, particularly when triggered by emotions, is a significant predictor of various forms of psychopathology. However, most impulsivity research has been conducted in Western cultures. This study assessed whether culture influences perception of a depressed individual's impulsive behavioral tendencies.

Methods: Vignettes of depressed individuals were used to examine 124 bilingual people's (English and Japanese or Korean or Mandarin) ($M_{age}=32.37$ years; 57% male) perception of a depressed individual's impulsivity, when language and vignette character name were varied. Impulsivity perception was measured using the five subscales of the UPPS-P Impulsive Behavior Scale - Short Form. Acculturation and self-construal were covaried.

Results: Reading and thinking in East Asian languages (compared to English) led to a depressed individual being perceived as more likely to lose control under negative emotion, to seek sensation, and to not think before acting. When the vignette character had a typical English name, participants perceived them as less likely to persevere. Acculturation and self-construal were not significant covariates.

Limitations: One impulsivity subscale was dropped due to its poor reliability in two East Asian Languages. Ecological validity was restricted by the vignette methodology, the assessment of impulsivity perception rather than behavior, and the geographical distribution of the sample.

Conclusions: Findings support how culture influences perception of impulsive tendencies of depressed individuals differently when thinking about a cultural context (name) and when thinking within a cultural context (language).

Impulsivity is a significant predictor of various forms of psychopathology (Berg et al., 2015) and has been consistently associated with externalizing (e.g., substance abuse; Charles et al., 2016) and internalizing symptoms (e.g., depression/anxiety; Guo et al., 2024). Controversy persists, however, as to whether impulsivity is a single, unifying construct (Berg et al., 2015). Research has suggested that significant impulsive reactivity to emotional situations (e.g., tendency to act without thinking when upset) is more predictive of depressive symptoms compared with other impulsivity dimensions (e.g., tendency to seek sensation), suggesting that lack of control over emotion may be as impactful on the patient as the negative mood itself (Carver and Johnson, 2018). Little is known, however, about how impulsivity is interpreted in people's social interactions (aan het Rot et al., 2015), especially when mental illness symptoms are displayed.

Theoretical literature suggests potential sociocultural impact on how impulsivity is viewed. Historically influential to East Asian populations, the Confucian moral system emphasizes the importance of self-control in

adherence to societal customs and family obligations (Leong and Lau, 2001). Impulsivity, as it contradicts the image of a controlled moral person, is seen as a moral failure and is often associated with mental illness broadly (Leong and Lau, 2001). In parallel, there is cross-cultural variation in self-construal, or how one should view oneself in relation to other people (Markus and Kitayama, 1991). Western cultures prioritize independent self-construal, or the view of the self as a fixed, unique entity that is defined by internal traits. In contrast, East Asian cultures prioritize interdependent self-construal, or the view of the self as a flexible entity defined by norms and relationships with others. Thus, impulsive behaviors may be viewed less positively in East Asian cultures as being disruptive to established norms, but more positively in Western cultures as being indicative of an individual's capacity for spontaneity, risk-taking, and norm-challenging despite potential disruption of relational harmony. Indeed, aggression, closely related to impulsivity (e.g., aan het Rot et al., 2015; Brennan and Baskin-Sommers, 2019), was positively associated with popularity in U.S. adolescents, while such

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association was negative in Chinese adolescents (Choukas-Bradley et al., 2019). This difference was attributed to variation in self-construal. Consequently, there is reason to believe that perceived associations between impulsivity and general mental illness would be stronger in East Asian than in Western cultural contexts.

The cultural impact on how these types of behaviors are viewed has potential implications for the perception, assessment, and intervention of mental health problems, in general (Mancone et al., 2024), and depression specifically, as the most prevalent and studied mental illness. The Cultural Norm Hypothesis suggests that depression may lead to reduced attention to the culturally appropriate ways of expressing emotions and reacting to emotional stimuli. Indeed, compared to European Americans, East Asian Americans with depression were found to have heightened reactivity (crying/laughter) to emotional stimuli due to impaired ability to enact East Asian cultural norms that emphasize moderation of emotion expression (Chentsova-Dutton et al., 2007; 2010). This suggests that cultural norms of control may lead to depressed individuals displaying and/or being perceived as having higher impulsivity in East Asian compared to Western cultural contexts. To date, there is little research on how culture impacts impulsivity perception in clinical contexts as well.

The current study assessed bilingual people's (English and an East Asian language) perception of a depressed individual's impulsivity when both language and character name were varied. Language holds a close relationship with cultural values as people speaking a language are thinking within a cultural context. The language someone uses has been shown to impact how they think about mental health attributes (Heller et al., 2024). Names suggest the culture affiliated with an observed person's racial/ethnic identity or about their cultural context (Erdal et al., 2011). Both have had impact on depression perception in previous research. As East Asian cultural norms may lead to depressed individuals being attributed more impulsivity, we expected that, for bilingual populations fluent in both English and one of the East Asian languages, East Asian cultural cues (language and name) would reinforce a corresponding East Asian cultural mindset and potentially lead to more attribution of impulsivity in a depressed character. Self-construal and acculturation (the degree to which an individual adapts to a cultural context; Hynes and Tambling, 2023), on the other hand, vary across individuals within a cultural context, and were examined as predictive individual difference variables on impulsivity perception.

It was hypothesized that higher perceived impulsivity of the vignette character would be predicted by (1) East Asian language presentation of survey instruments, (2) a typical East Asian vignette character name, (3) higher acculturation to an Asian-speaking environment, and (4) interdependent self-construal.

1. Method

1.1. Participants

Participants indicating fluency in English and at least one of Japanese, Korean, or Mandarin were recruited on Prolific. The three groups ($n = 43$ English-Japanese; $n = 41$ English-Korean; $n = 40$ English-Mandarin) were combined to form one English-East Asian Language group for data analysis ($N = 124$). The sample was 57 % male, with a $M_{age} = 32.37$ years ($SD = 8.96$), 81.4 % of whom currently resided in Western countries.

1.2. Materials

1.2.1. Vignette

A vignette depicted an individual with symptoms of depression based on the International Classification of Diseases-11 (ICD-11; World Health Organization, 2024). Participants were randomly assigned the language (English or their East Asian language) of the vignette and the name of the vignette character (typical gender-neutral English or Asian name that

matched their Asian language). The vignette was written in English, translated to Japanese/Korean/Mandarin, and back-translated to English by two bilingual persons of English and Japanese/Korean/Mandarin. All but one of the six translators were blind to the study's hypotheses. See Appendix for the English version of the vignette.

1.2.2. Impulsivity perception

The UPPS-P Impulsive Behavior Scale-Short Form (SUPPS-P; Cyders et al., 2014) is a 20-item scale, designed to assess respondents' trait-like impulsivity with five dimensions: Negative Urgency (impulsive reactivity to negative emotions), Lack of Perseverance (tendency to give up on tasks), Lack of Premeditation (tendency to not consider consequences prior to actions), Sensation Seeking (tendency to seek stimulation), and Positive Urgency (impulsive reactivity to positive emotions). For this study, the wording of the SUPPS-P was changed to measure participants' perception of the vignette character's impulsivity. It was then translated to Korean/Japanese/Mandarin and back-translated to English by two bilingual persons of English and Korean/Japanese/Mandarin. Items were rated on a Likert scale from 1 (*very likely*) to 4 (*very unlikely*). Higher scores indicated higher degrees of impulsivity.

For the English version, the SUPPS-P yielded good reliability for the Lack of Premeditation ($\alpha = 0.81$), Negative Urgency ($\alpha = 0.71$), and Positive Urgency subscales ($\alpha = 0.72$), and acceptable reliability for the Sensation Seeking ($\alpha = 0.68$) and Lack of Perseverance (minus item 2) subscales ($\alpha = 0.63$). For the combined East Asian version, there was good reliability for the Lack of Premeditation subscale ($\alpha = 0.79$), acceptable reliability for the Negative Urgency ($\alpha = 0.67$), Sensation Seeking ($\alpha = 0.66$), and Lack of Perseverance (minus item 2) subscales ($\alpha = 0.65$), and poor reliability for the Positive Urgency subscale ($\alpha = 0.45$). The Positive Urgency subscale was dropped prior to data analysis.

1.2.3. Acculturation rating scale

The Improved Acculturation Rating Scale for Mexican Americans-II (ARSMMA-II) Adapted for Asian Americans (Hynes and Tambling, 2023) was established for Asian Americans to assess the degree of acculturation to their Asian cultures of origin and to their English-speaking cultures. It has 21 items that form two subscales: Asian Orientation Scale (AOS) and Western Orientation Scale (WOS). Items were rated on a Likert scale from 1 (*not at all*) to 5 (*extremely often or almost always*). Higher scores indicated higher degree of acculturation. This scale was presented in English as the ARSMMA-II was presented following the dependent variables. There was good reliability for the AOS ($\alpha = 0.86$) and WOS ($\alpha = 0.84$).

1.2.4. The self-construal scale

The Self-Construal Scale (SCS; Hardin et al., 2004) is a 30-item scale designed to assess one's view of oneself in relation to other people. It has two subscales: Independent Self-Construal (viewing oneself as separate from others) and Interdependent Self-Construal (viewing oneself as connected with others). Items were rated on a Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Higher scores indicated higher degree of identification. This scale was presented in English as it was presented following the dependent variables. There was good reliability for the Independent Self-Construal ($\alpha = 0.84$) and Interdependent Self-Construal subscales ($\alpha = 0.80$).

1.3. Procedure

Institutional Review Board approval and informed consent was received prior to data collection. Participants filled out a Qualtrics survey that randomly assigned them to one of the following conditions: English-only, where everything was presented in English; or Mixed Languages, where the vignette and the SUPPS-P were presented in their East Asian language, and the rest of the survey was presented in English. Lastly, participants filled out demographic information and were

compensated for their time.

2. Results

Gender and age distributions were not significantly different across languages or vignette character names, $p > .05$, and were thus not covaried in the analysis. All subscales of Acculturation (WOS and AOS) and Self-Construal (Independent and Interdependent) were covaried in the analyses. See Table 1 for the means and standard deviations of the Impulsivity Perception subscales, grouped by Language and Vignette Character Name.

A 2 (Language) x 2 (Vignette Character Name) MANOVA revealed a main effect of Language on Impulsivity Perception, $F(4113)=35.10$, $p < .001$, $\eta_p^2=0.554$, Observed Power > 0.80 . Univariate tests revealed this to be significant on the Negative Urgency, $F(1116)=14.89$, $p < .001$, $\eta_p^2=0.114$, Lack of Premeditation, $F(1116)=129.70$, $p < .001$, $\eta_p^2=0.528$, and Sensation Seeking subscales, $F(1116)=8.23$, $p = .005$, $\eta_p^2=0.066$, with the vignette character perceived to be more impulsive when participants responded to the scale in an East Asian Language (See Figure.). There was a main effect of Vignette Character Name on Impulsivity Perception, $F(4113)=2.55$, $p = .043$, $\eta_p^2=0.083$, Observed Power = 0.71. Univariate tests revealed this to be marginally significant on the Lack of Perseverance subscale, $F(1116)=3.89$, $p = .051$, $\eta_p^2=0.032$, with the vignette character perceived to be less likely to persevere when the vignette character had a typical English name. The MANOVA revealed no significant interaction between Language and Vignette Character Name on Impulsivity Perception, $p > .05$. None of the covariates were significant.

3. Discussion

Partially supporting hypothesis 1, thinking in an East Asian language led to perception of higher impulsivity of the depressed individual in Negative Urgency, Lack of Premeditation, and Sensation Seeking, but not Lack of Perseverance. These findings suggest that embedded values sparked by language shifted the participants' perception of impulsivity of depressed individuals. In the framework that depression is associated with deviation from cultural norms (Chentsova-Dutton et al., 2007; 2010), people associated with Confucianism, when thinking in East Asian languages, perceived depressed individuals as more impulsive, perhaps due to deviation from the Confucian standard of self-control, specifically (Leong and Lau, 2001).

In support of hypothesis 2, East Asian vignette character name, but not language, led to perception of lower impulsivity of the depressed person in Lack of Perseverance. This suggests that the participants considered Lack of Perseverance as separate from the other impulsivity dimensions and as contingent upon who was experiencing the symptoms. The Asian stereotype of strict parents and success in academics might be so prevalent that perseverance is seen as a cultural expectation for East Asian individuals, including those with depressive symptoms (Yoon and Lau, 2008). A lack of perseverance, on the other hand, would be more related to a depressed Western individual, who may be expected

to have more freedom and space for such behavior. It should be noted that this result was slightly under-powered and marginally significant, and thus warrants replication from future studies.

These findings have important theoretical and clinical implications. Notably, the perceived lack of perseverance mattered more when thinking about a cultural context (Vignette Character Name) than within a cultural context (Language), while the other three impulsivity dimensions showed the opposite pattern. These findings add to the literature that advocate for parsing the distinct mental processes under the broad impulsivity construct based on theoretical relevance (e.g., Berg et al., 2015). Further, perceptions of individuals with depression by close others and clinicians play a critical role in shaping help-seeking behaviors, clinical judgment, and the course of depression (Erdal et al., 2011). The present findings may help inform clinicians of how their clients with diverse cultural backgrounds are perceived in order to improve culturally sensitive care. These findings may also be used to enhance laypeople's mental health literacy by elucidating how cultural factors influence perceptions of depression and inform how they interact with depressed individuals (Mancone et al., 2024).

Hypotheses 3 and 4 were not supported as acculturation and self-construal were not significant covariates. This may be because this study's acculturation scale measured behavioral, but not value, acculturation (Hynes and Tambling, 2023). Consequently, value factors other than self-construal may have more significant impact on how one perceives impulsivity in a cultural context. Heller et al. (2024) showed that traditional Asian values moderated language's effect on depression treatment recommendation. Future research should replicate these findings and test different value factors as potential mediators of the relationship between language/name and impulsivity perception in clinical settings.

This study had several limitations. One impulsivity subscale (Positive Urgency) was dropped due to poor reliability in Mandarin and Korean. Previous research has shown that Western European populations prefer to feel high-arousal (e.g., excitement) emotional states in daily lives, while East Asians prefer low-arousal (e.g., peace) states (Tsai, 2017). Survey items in Positive Urgency include both "excited" and "great mood," which may be perceived differently and have contributed to the low reliability of this subscale in the two East Asian languages. Future research should examine the reasons for meaning inequivalence and potentially invent new measures with measurement invariance established.

Ecological validity was constrained by the vignette methodology (which is mostly a Western research approach; Erdal et al., 2011), by assessing impulsivity perception rather than using a behavioral measure, and by the geographical distribution of the sample (81.4 % currently resided in Western countries). In this study, vignette character name was intended to represent the racial/ethnic identity of an individual. However, many Asians have typical English names, and multi-racial populations are rapidly increasing. Future research may benefit from combining a photograph with a name to present the vignette characters and/or recruiting more bilingual participants who reside in East Asian countries to enhance ecological validity.

Table 1
Impulsivity perception by language and vignette character name.

Impulsivity Perception	English Language			East Asian Language		
	English Name M (SD)	East Asian Name M (SD)	Total M (SD)	English Name M (SD)	East Asian Name M (SD)	Total M (SD)
Negative Urgency	2.66 (0.53)	2.60 (0.48)	2.63 (0.50)***	3.05 (0.42)	2.98 (0.58)	3.02 (0.49)***
Lack of Premeditation	2.30 (0.62)	2.19 (0.49)	2.24 (0.55)***	3.02 (0.52)	3.65 (0.59)	3.38 (0.59)***
Lack of Perseverance	2.33 (0.51)	2.08 (0.43)	2.20 (0.48)	2.32 (0.46)	2.17 (0.62)	2.26 (0.53)
Sensation Seeking	2.19 (0.53)	2.28 (0.41)	2.24 (0.47)**	2.51 (0.45)	2.45 (0.63)	2.49 (0.52)**

Note. Mean scores of Impulsivity Perception grouped by Language and Vignette Character Name.

** $p < .01$

*** $p < .001$ In the same row are different from each other.

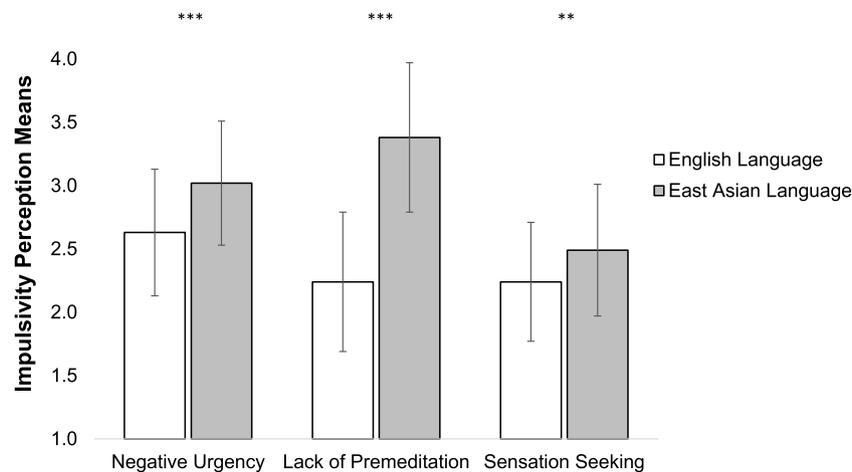


Fig. 1. Impulsivity perception means by language and impulsivity dimensions.

Note. Mean scores of Impulsivity Perception grouped by Language and Impulsivity dimensions. Error bars represent ± 1 standard deviation values for each group's mean.

** $p < .01$, *** $p < .001$.

Lastly, the present study did not assess whether taking the survey in a non-native language would influence participants' perceptions of the vignette character, nor did it assess other forms of psychopathology other than depression. Future research may include the vignette of individuals with other types of mental illness symptoms and the survey language being native/non-native as a control variable when assessing the effect of language on impulsivity perception. However, measurement artifacts due solely to participating in a non-native language were unlikely, as not all subscales were similarly impacted by language.

This study was the first to show how culture influences perception of impulsive tendencies of depressed individuals. It adds to the ongoing effort of situating symptomatology in specific cultural contexts to better understand the nature of depression and other mental illnesses and their correlates.

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Generative AI was not used in this paper.

CRediT authorship contribution statement

Huaxuan “Knox” Huang: Writing – review & editing, Writing – original draft, Visualization, Software, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Kristi Erdal:** Writing – review & editing, Supervision, Resources, Project administration, Methodology, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix

Please read the following paragraph:

Imagine that River/Zhang/Dodam/Tanaka, someone you are acquainted with, is 26 years old and lives in your neighborhood. You and him/her used to see each other around, say “Hi” every evening, and have a meal together every other week, but for the past few weeks, you have not seen him/her most of the time. The few times you saw him/her, you noticed that he/she seemed to be feeling very down, increasingly tired, and losing weight. One time you saw him/her walking back and forth on the street and suddenly starting to cross the street when the traffic light was still red, and the cars were racing. You had to yell and run to stop him/her from crossing and were shocked that he/she did not seem to be paying attention at all. You asked him/her what was going on and why he/she has not texted you back for weeks, and it took him/her 30 seconds before a few words like “I can’t... Don’t feel like it...” came out of his/her mouth. You were trying to ask him/her to clarify, but he/she walked by you.

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