How Cultural, Personality, & Gender Differences Affect Stigma Toward Use of Substances

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Introduction

- Stigma about substance use can be a significant barrier for people wanting to seek help (Mburu et al., 2018). Indirect public stigma can increase someone's self stigma, resulting in a declined mental state (Fredrick et al., 2018).

- Past research has supported the notion that substance abuse stigmatization is higher
  - in collectivist cultures compared to individualistic cultures (Ikizer et al., 2018; Papadopoulos et al., 2012);
  - for substances with greater illegality (Sattler et al., 2017);
  - among those higher in extraversion (lower introversion) (Yuan et al., 2018);
  - among men as compared to women (Mburu et al. 2018).

- We specifically look at how these variables of culture, illegality, personality, and gender relate to acceptance of recreational substance use, not substance abuse.

Hypotheses:

- The most stigmatized attitude would be from the collectivist cultures, the more extroverted personality types, and male participants.

- The more illegal a drug is (based on Canadian Controlled Drugs and Substances Act), the more stigmatization that will be attributed to it.
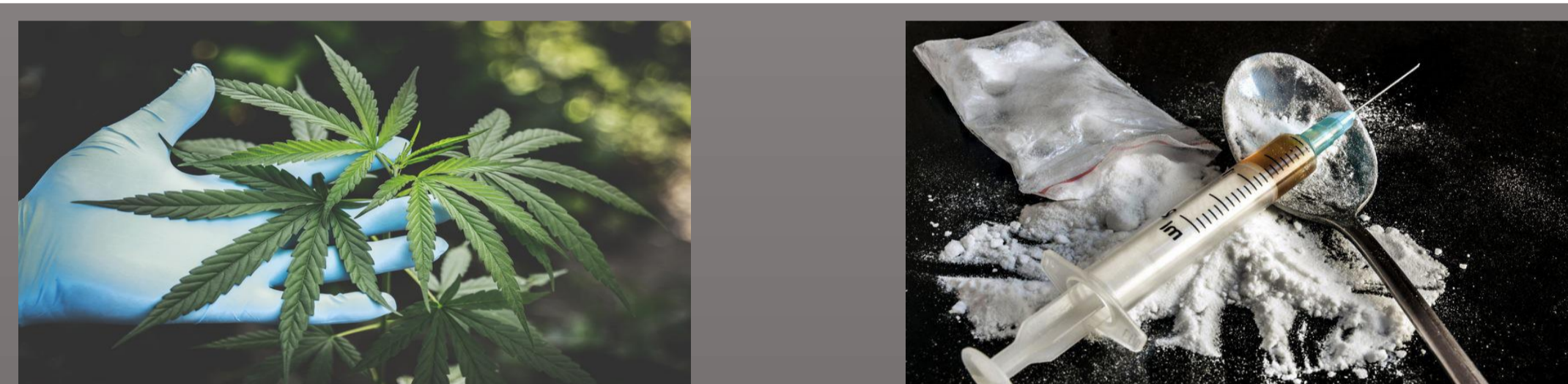
Methods

Participants:

- 129 participants (102 female, 27 male) from a wide variety of cultures, with Western ($n = 58$), Indian ($n = 35$), and Southeast Asian ($n = 18$) being the 3 most common.

- Median age was 22.5, with 88% of participants being under 27 years old.

Materials:

- The 16-item **Culture Orientation Scale** (Triandis & Gelfland, 1998). It has 4 sub-scales with 4 questions each rated on a 9-point rating scale. They measure horizonal individualism (HI), horizontal collectivism (HC), vertical individualism (VI), & vertical collectivism (VC) (α = .72 - .81).
  - **HI** assesses the extent to which individuals strive to be distinct without desiring special status.
  - **HC** assesses the extent to which individuals emphasize interdependence but "do not submit easily to authority."
  - **VI** assesses the extent to which individuals strive to be distinct and desire special status.
  - **VC** assesses the extent to which individuals emphasize interdependence and competition with out-groups.

- **The Introversion scale** (Richmond & McCroskey, 1998). The original scale had 18 items on a 5-point Likert scale; 6 neuroticism questions omitted (as we were not measuring neuroticism); 12 personality directed question remain (α = .86).

- A highly modified version of the **Perceived Stigma of Substance Abuse Scale** (Luoma et al. 2009). Responses were scored between 9 and 36, with higher scores representing greater perceived stigma (α = .82).
  - Modified from substance 'abuse' to 'general use'; two questions were dropped and replaced by 3 alternate questions focusing on possible interaction with recreational drug users.

Procedure:

- We conducted an anonymous, online survey in Qualtrics.

- Participants rated their level of acceptance of seven substances (see table 2). The questions ranged on a 4-point scale from 'definitely not' to 'definitely yes,' with no neutral position. The order at which the substances appeared was randomized.

Acknowledgments

Results

Analysis:

- We conducted seven multiple regression analyses (MRA) with cultural orientation, gender, and introversion as the predictor variables and stigma towards each of seven drugs (cocaine, alcohol, mushrooms, heroin, CBD, marijuana, and pharmaceuticals) as separate dependent variables.

- We also conducted a repeated measures ANOVA to determine if there were differences in stigma among the seven drugs.

Results:

- Three out of the seven analyses showed statistical significance for substance use stigma: cocaine, alcohol, and mushrooms. Only the significant results are reported in this poster (see Table 1).

- Cocaine overall model: $F(6,117) = 2.73$, $p = .016$, $R = .35$, $R^2 = .12$ (medium effect).

- Alcohol overall model: $F(6,117) = 4.41$, $p < .001$, $R = .43$, $R^2 = .14$ (medium effect).

- Mushrooms overall model: $F(6,118) = 4.06$, $p < .001$, $R = .41$, $R^2 = .13$ (medium effect).

- Table 2 shows the descriptive statistics for each substance.

- Repeated measures ANOVA revealed that there was a significant, large main effect on drug type ($F[3.59, 738] = 152.28$, $p < .001$, $\eta^2 = .55$). Heroin had a significantly higher mean stigma score than all other substances, followed by cocaine and mushrooms respectively. Pharmaceuticals was only significantly higher than alcohol but was not significantly higher than CBD or Marijuana.

- Marijuana, CBD, and alcohol all had the lowest mean stigma score and were not significantly different from each other.

Table 1: *Regression Analysis of each significant substance use stigma*

Substance	Factors	B	SE B	β	t	p
Cocaine	Gender (Male-Female)	0.59	1.16	0.11	0.51	.611
	Introversion	0.07	0.06	0.12	1.12	.267
	HI	**0.23**	**0.10**	**0.22**	**2.37**	**.020**
	VI	0.03	0.08	0.03	0.34	.734
	HC	**-0.31**	**0.12**	**-0.29**	**-.27**	**.008**
	VC	0.11	0.08	0.13	1.14	.159
Alcohol	Gender (Male-Female)	0.06	0.96	0.01	0.06	.953
	Introversion	**-0.15**	**0.05**	**-0.28**	**-2.80**	**.006**
	HI	<-0.01	0.08	<-0.01	-0.02	.987
	VI	0.08	0.07	0.11	1.24	.219
	HC	-0.013	0.10	-0.01	-0.14	.893
	VC	**0.27**	**0.07**	**0.37**	**4.10**	**<.001**
Mushrooms	Gender (Male-Female)	-0.21	1.20	-0.04	-0.18	.860
	Introversion	-0.02	0.07	-0.03	-0.31	.754
	HI	0.12	0.10	0.11	1.18	.241
	VI	0.01	0.08	0.01	0.05	.957
	HC	**-0.39**	**0.12**	**-0.34**	**-3.23**	**.002**
	VC	**0.31**	**0.08**	**0.35**	**3.77**	**<.001**

Table 2: *Descriptive Statistics and Distribution of Drug Stigma Scores*

	Heroin Stigma	Cocaine Stigma	Mushroom Stigma	Pharmaceutical Stigma	Marijuana Stigma	CBD Stigma	Alcohol Stigma
M	29.2	27.0	22.7	19.6	18.1	18.1	17.6
SD	4.79	5.37	5.71	5.51	6.07	6.20	4.60

Discussion

Discussion

- Our results showed that culture played a role in stigma toward substance for cocaine, alcohol, and mushrooms.
  - VC – the extent to which individuals emphasize interdependence and competition with out-groups, was found to be a positive predictor of stigma for alcohol and mushrooms. This supports our hypothesis that collective cultures would have more stigmatizing attitudes.
  - HC – the extent to which individuals emphasize interdependence but do not submit easily to authority, was found to be a negative predictor for cocaine and mushrooms. This was the opposite of our hypothesis, as we believed collectivism would have higher stigmatization.
    - HI – the extent to which individuals strive to be distinct without desiring special status, was a positive predictor of stigma for cocaine. This also went against our hypothesis that more individualistic people would hold less stigma.

- Personality only played a role for stigma toward alcohol, indicating that the more extroverted someone was, the less stigmatizing attitudes they had towards alcohol use.

- Contrary to the finding from Mburu et al. (2018) gender did not play a roll in substance use stigma.

- Our hypothesis of legality was supported, as the more illegal a substance was, the greater the stigma. The three lowest stigma scores belonged to the only legal substances. Arguably, the two substances that are most illegal (heroin and cocaine) according to the Canadian Controlled Drugs Act, received the two highest mean stigma scores. This reflects the findings from Sattler et al. (2017) that the more illegal a substance is, the higher the stigma towards it.

- One noticeable limitation of this study was the lack of clarity around the substance "pharmaceuticals." Some participants mentioned how they did not know if this was referring to those who had been prescribed them, or those who purchased them illegally.

Conclusion:

- To our knowledge this is the first study to look at how culture, gender, and personality affect stigmatizing attitudes towards just substance use and not substance abuse. Findings suggest that only one aspect of collective culture (VC) may contribute to stigmatizing attitudes, while also suggesting that stigmatization is dependent on the perceived legality of a substance.

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