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# Sociocultural Orientations and Mental Illness Stigma: A Novel Mediation Model

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Sociocultural Orientations and Mental Illness Stigma: A Novel Mediational Model

An Honors Paper for the Department of Psychology

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Bowdoin College, 2023

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### **Abstract**

This study proposes a novel mediational model to investigate the relationship between sociocultural orientations and mental illness stigma by exploring empathy and controllability attributions as mediators. Past literature suggests that understanding these variables may contain important implications for guiding stigma-reducing efforts. Questionnaires assessing sociocultural orientations, empathy, blaming attributions, and general mental illness stigma were administered to 109 students at a small liberal-arts college in the northeast United States. The sample consisted of 80 female-identifying participants, 28 male-identifying participants, and 1 non-binary participant. Questionnaires administered included the Individualism and Collectivism scale (Triandis & Gelfand, 1998), the Questionnaire of Cognitive and Affective Empathy (Reniers et al., 2011), a modified version of the Attribution Questionnaire (Corrigan et al., 2003), and Day's Mental Illness Stigma Scale (Day et al., 2007). Analysis showed that vertical sociocultural orientations were associated with more blameful attributions and heightened stigma. Horizontal collectivism was associated with increased empathy and less blameful attributions, but empathy did not mediate this relationship. Controllability attributions, but not empathy, partially mediated the relationships between both vertical orientations and stigma. These findings demonstrate the importance of sociocultural orientations, particularly the equality preference dimension, as predictors of mental illness stigma. Efforts to counter societal stigma should consider the role of sociocultural orientations and their interaction with empathy and blaming tendencies.

### **Sociocultural Orientations and Mental Illness Stigma: A Novel Mediational Model**

People who are diagnosed with mental illnesses must frequently deal with other people's judgments of them in addition to the distress their mental illness brings. Experiencing societal stigma is associated with detrimental effects for people struggling with mental illness, such as decreased job opportunities and discrimination in health care settings (Link et al., 1997; Thornicroft et al., 2007). Socially, experiencing stigma from others can lead to feelings of loneliness, internalized stigma, becoming socially isolated, and may prevent people with mental illness from pursuing treatment (Link et al., 2001; Thornicroft, 2007). Stigma is also a common reason given as explanation for suicide attempts (Eagles et al., 2003).

Societal attitudes toward mental illness, such as stigma, vary greatly across cultures and on an individual basis (Abdullah & Brown, 2011). Therefore, stigma-reducing interventions may have higher efficacy if specifically adapted along differences associated with cultural orientation. By focusing on people who hold stigmatizing beliefs, interventions can attenuate the discrimination that people with mental illness endure. Potential targets for interventions are empathy and the attributions people make about those with mental illness. Specifically, the belief that someone is to blame for their own mental illness, known as controllability attributions, may be connected to stigma (Corrigan et al., 2000). The current study explores a potential relationship between cultural orientations and stigma, in which empathy and controllability attributions are central explanatory mechanisms. Cultural orientations will be explained first, followed an exploration of their relationship to empathy and controllability attributions, then all variables' relationship to mental illness stigma will be explored.

### **Sociocultural Orientations: Individualism and Collectivism**

Extensive research in cross-cultural psychology has focused on the construct of individualism and collectivism in explaining cultural differences (Fatehi et al., 2020; Oyserman et al., 2002). In 1980, Hofstede proposed this construct as a central defining dimension of different societies. Within individualist cultures, people's central self-concepts are relatively autonomous from groups, while people in collectivist cultures tend to define themselves as members of a greater whole (Triandis, 1995). One's sense of self is deeply interdependent with others in collectivist cultures, whereas it is independent from others in individualist contexts (Markus & Kitayama, 1991). Perceived social norms and obligations are a better predictor of people's social behavior in collectivist contexts, while people's unique attitudes and values better predict social behavior among individualists (Triandis, 1995). Another defining attribute is that individualistic behavior is motivated by having the right to do what they desire, whereas collectivists focus more on duties to one's ingroup (Triandis, 1995). Individualists tend to value personal attributes and achievements, being less concerned with other people's opinions than collectivists (Oyserman et al., 2002).

The dimension of individualism and collectivism has received some criticism. This model has been called into question for neglecting to focus on alternative societal organizing principles, particularly how a society deals with power, dependence, and equality (Oyserman, 2006). One way to resolve this tension is to utilize a model which incorporates equality orientations by adding a vertical and horizontal dimension into the individualism-collectivism framework. In this dimension, people who have more vertical orientations are more tolerant of hierarchies within society, while people who have more horizontal orientations more highly value equality and disapprove of social hierarchies (Singelis et al., 1995). Although individualism/collectivism and horizontal/vertical orientation compose two dimensions of cultural orientations that are usually

measured together, there may be correlations across the two dimensions. Collectivism is generally more strongly correlated with vertical orientations, while individualism tends to be correlated with horizontal orientations (Shavitt et al., 2006). This may be due to collectivists' greater emphasis on social norms creating more belief in a social hierarchy based on conformity.

Despite this relationship, the constructs are sufficiently distinct to be combined to create four distinct cultural outlooks: vertical individualism, horizontal individualism, vertical collectivism, and horizontal collectivism (Singelis et al., 1995). Countries that tend toward vertical individualism, such as the United States and France, prioritize individual accomplishments and striving for higher social status (Ditchman et al., 2017). Within countries that tend toward horizontal individualism, such as Denmark and Sweden, egalitarianism is valued, but self-reliance is preferred over interdependence (Shavitt et al., 2011). Countries that tend toward vertical collectivism, such as Korea and India, prioritize social standing and social conformity under authority, and people are more willing to sacrifice personal goals for group goals. Lastly, horizontal collectivist societies, such as Israel, consider people to be equal to others, alongside an emphasis on interdependence (Ditchman et al., 2017; Shavitt et al., 2011).

### **Scope: Cultural vs. Individual Level**

These cultural orientations are frequently explored as culture-level attributes. This method involves determining different societies' relative levels of individualism/collectivism and horizontality/verticality. However, the present study utilizes an alternative mode of studying cultural orientations by assessing attitudes on an individual level. Different societies tend to align with the four different ideologies, but people within the same culture can also differ from one another. In the current study, individualism, collectivism, and equality orientations are considered personal characteristics representing each individual's outlook. Empathy,

controllability attributions made about mental illness, and stigma are assessed on an individual level as well. One advantage of this approach is that it accounts for the complexity and nuance that is overlooked when entire societies are generalized under one cultural orientation. This strategy also provides greater insight into individualized processes involved in the development of stigma. Results from this study may foster understanding of how internalized societal values and perspectives influence individuals and their perceptions of others, particularly of those with mental illness. Although orientations such as individualism and collectivism were initially studied as cultural attributes, research at the individual level has become well-established (Earley, & Gibson, 1998; Markus & Kitayama, 1991). The current study will not use data regarding the four cultural orientations to categorize participants as one of four types. Rather, each individual will receive a score for each dimension.

### **Sociocultural Orientations and Empathy**

Empathy is frequently studied as a significant variable in people's perceptions of, and judgments toward, others. It has been found that people use culturally specific emotional appraisals to make moral judgements (Kitayama & Markus, 1994). For instance, Turkish and American subjects demonstrated different other-blaming emotions after reading about others committing moral violations (Sunar et al., 2021). Accordingly, different cultural orientations lead to different experiences of empathy (Hofstede, 1980). Collectivism has been linked to higher empathy than individualism, perhaps due to collectivists having greater emotional concern for others (Heinke et al., 2009). Cultural orientation also influences how empathy manifests. For instance, collectivists have been found to experience more other-focused emotions such as sympathy and shame, while individualists experience more ego-focused emotions such as pride and anger (Kitayama & Markus, 1994). This may be a result of collectivists having a more

interdependent sense of self and being more-other focused. Experiencing other-focused emotions and feeling emotionally tied to a greater collective may lead to collectivists' higher levels of affective empathy. In contrast, if individualists are more self-focused, they may be less adept at the cognitive perspective-taking required for developing empathetic affect. Prioritizing autonomy might lead to dismissing the empathetic act of sharing other people's pain. Therefore, participants scoring highly on collectivism are expected to demonstrate greater empathy. One study found that after subjects listened to a recording of a counseling session, collectivist orientations predicted experienced empathetic emotion while individualist orientations predicted intellectual empathy (Duan et al., 2008). Considering this, individualism may be more correlated with cognitive empathy, which involves intellectual perspective-taking, while collectivism may be more correlated with affective empathy, which involves experiencing shared emotions. However, due to overall trends in past research, collectivistic orientations are still expected to have a stronger correlation with a composite measure of empathy that assesses both of these components.

Attitudes toward equality may also be correlated with levels of empathy. Among a sample of urban Turkish drivers, empathy was positively associated with both collectivist orientations and horizontal individualism, but not vertical individualism (Nordfjærn et al. 2014). Empathy was more strongly associated with horizontal individualism than vertical collectivism despite collectivists usually having greater empathy, suggesting that equality orientation may be particularly influential in the context of personal individualism. These findings indicate a potential link between the two factors in which people who prefer more egalitarian societies will tend to have more empathy for others. Vertical orientations place more emphasis on competition instead of collaboration, and a competitive mindset may interfere with empathetic responses by



making people more self-absorbed (Nordfjærn et al. 2014). Consequently, horizontal orientations may be linked with greater levels of empathy than vertical orientations.

These findings inform predictions for the current study. Since both collectivism and horizontal orientations are linked with greater empathy, horizontal collectivism is expected to be strongly positively correlated with empathy. Seeing others as both equal and connected to oneself may increase one's propensity for sharing others' pain. Being other-focused while opposing hierarchy may indicate especially great concern for others and perspective-taking abilities, thus creating a particularly strong empathetic capacity. Accordingly, it is expected that vertical individualism scores will be strongly negatively correlated with empathy. Adding a tolerance for inequality to an individualist's self-focused mindset may result in a competitive desire to be above others within a social hierarchy. This orientation could demonstrate an interaction in which having both an individualist and vertical mindset leads to a more extreme lack of empathy than either of the traits would on their own.

In contrast, scoring highly on an outlook containing either collectivism or horizontalism may preserve one's empathetic capacity. For instance, people scoring highly on vertical collectivism are expected to demonstrate more empathy than those scoring highly on vertical individualism. This could involve an outlook where hierarchy is tolerated, but empathy is still cultivated due to valuing interconnection with others, such as those within one's immediate social context. Similarly, having a strong individualist outlook may not result in extreme empathy deficits for those with a horizontal orientation. Horizontal individualism could involve a mindset in which one is relatively self-focused, but one's empathic abilities are not hindered by the competitive desire to be above others hierarchically. Considering this, the horizontal

individualism and vertical collectivism dimensions are both tentatively expected to be mildly positively correlated with empathy.

### **Sociocultural Orientations and Controllability Attributions**

Attribution theory involves the study of perceived causality for events and behaviors (Weiner, 1972). The study of attributions has contributed to research about what drives stigma and discrimination toward people with marginalized identities, including those with mental illness (Corrigan et al., 2000). Specifically, controllability attributions demarcate the amount of control, and resulting fault, that a person is considered to have over their mental health condition (Betancourt, 1990). With respect to controllability attributions, individualists tend to make more dispositional attributions, meaning that blame in a given situation is attributed to a person's character, whereas collectivists tend to make more situational attributions that attribute blame in a given situation to one's external circumstances or environment (Krull et al., 1999).

Dispositional attributions indicate higher controllability than situational attributions, so individualists are expected to make higher controllability attributions which attribute more blame to a person for their mental illness.

Equality orientations may also influence the attributions people make about others who experience mental illness. However, the horizontal/vertical dimension of individualism and collectivism has been largely overlooked in attribution research. Horizontal equality orientations may be less linked to lower controllability attributions, meaning that mental illness is seen as less controllable, so people receive less blame for their suffering. In one study, urban youth had higher scores than rural youth for both vertical orientations and dispositional attributions, (Huang et al., 2014). Although Huang et al. (2014) did not report bivariate correlations, their results suggest a potential positive correlation between verticality and attributing blame to individuals.

Vertical individualism has been found to partially explain American and Chinese employers' negative attitudes toward hiring job candidates dealing with disabilities (Rao et al., 2010). Rao et al. (2010) also identified controllability attributions, specifically perceived responsibility for developing a condition, as a partial mediator in the relationship between cultural orientation and negative attitudes toward potential employees with disabilities. It was concluded that competitive, individualist values alongside the controllability-based belief that a person is dangerous may contribute to stigma toward people with disabilities (Rao et al., 2010).

Vertical orientations may be linked with attributing more controllability to individuals due to a competitive desire to be above others in social hierarchy, as well as the tendency to see others as belonging within a hierarchy in the first place. Considering this, people who score highly for vertical individualism may be particularly likely to make high controllability attributions in which people are considered at fault for their struggles with mental illness. This may be due to a lack of perspective-taking creating a particularly judgmental attitude and a lack of ability to understand the context that causes people's distress. Among horizontal individualists, seeing others as equal to oneself may mitigate being self-focused, so that empathy is somewhat increased. Similarly, among vertical collectivists, seeing oneself as connected to others may mitigate allowing hierarchy, so that empathy is somewhat restored. Lastly, people who score highly on horizontal collectivism may be unlikely to believe that mental illness is controllable. Seeing oneself as interconnected with others, combined with a desire to see others as equals, may lead to especially low tendencies to blame people for their struggles. Therefore, the horizontal collectivism dimension is expected to be strongly negatively correlated with controllability attributions. The vertical individualism dimension is expected to be strongly positively correlated with controllability attributions. Both the horizontal individualism and the

vertical collectivism dimensions are tentatively expected to be mildly negatively correlated with controllability attributions.

### **Sociocultural Orientations and Mental Illness Stigma**

People with different cultural orientations differ with respect to discriminatory beliefs about people with mental illness. Generally, collectivist societies have been found to be associated with increased levels of mental illness stigma toward others in comparison to individualist societies (Jaques et al., 1973; Papadopoulos et al., 2002). One potential explanation for this pattern is that people in collectivist societies may place more emphasis on social conformity, thus creating less tolerance for people who stray from social norms (Papadopoulos et al., 2012). Another possibility is that collectivists' values regarding the pursuit of group goals creates less tolerance for people who fall short of desired communal contributions. Among individualists, stigma may be a result of people valuing independent success and self-reliance since those with mental illness may rely upon external help to succeed.

Vertical equality orientations are also associated with greater stigma than horizontal orientations, such as increased stigma toward people with intellectual disabilities (Ditchman et al., 2017). Vertical orientations among both Korean and American subjects were linked with higher levels of stigma toward people with autism (Kim et al., 2022). Hierarchical attitudes which tolerate inequality can lead to increased stigma, particularly toward others perceived as different within social hierarchies (Gillespie-Lynch et al., 2019). Accordingly, horizontal orientations, which are more opposed to inequality within societies, are associated with lower levels of mental health stigma. A potential explanation for this pattern is that people who tolerate inequality are more willing to see other people as lesser, particularly those people struggling with a socially stigmatized condition.

Since vertical and collectivist orientations are both linked with more mental illness stigma, the vertical collectivism dimension is expected to be strongly positively correlated with stigma. Collectivists' disdain for people violating social norms, combined with condoning social hierarchies, may create exceptionally negative views toward those who fail to conform, designating them as the people meant to reside at the bottom of the desired hierarchy. Having a more horizontal orientation may mitigate the effects of collectivism on stigma, so that stigma is less extreme when people value social conformity but stand against inequities imposed on those who fail to conform. Being an individualist may mitigate the effects of having a more vertical orientation on stigma. This could involve individualists' greater tolerance of deviation from social norms, including less severe judgment of people with mental illness, despite supporting inequality in theory. Therefore, the horizontal collectivism and vertical individualism dimensions are tentatively expected to be mildly negatively correlated with stigma. Lastly, the horizontal individualism dimension is expected to be strongly negatively correlated with stigma. Having a value of equality alongside a lack of judgment for those deviating from norms may create a multiplicative effect through which stigma is especially reduced.

### **Empathy and Mental Illness Stigma**

Generally, higher levels of stigma towards others are correlated with lower levels of empathy (Sarge et al., 2020; Kresovich, 2022). This may be because empathy involves increased perspective-taking, which opposes the judgmental nature of stigma (Sarge et al., 2020). Among mental health trainees, both cognitive and affective empathy are associated with reduced stigma toward patients with mental illness (Saguem et al., 2022). Empathy has also been found to predict amounts of mental health stigma among U.S. college students (Kresovich, 2022). Kresovich (2022) found that mental health empathy mediated the relationship between exposure

to mental-health related music and reduced stigma (Kresovich, 2022). The potential causal effect of empathy in this relationship is supported by the finding that cultivating empathy undermined people's explanations for having stigma toward queer men and sex workers with HIV in Ghana (Parker et al., 2020).

There is tension in the literature in the relationship between cultural orientation, empathy, and stigma toward mental illness. Collectivism is consistently associated with both higher levels of empathy and higher levels of stigma, but empathy and stigma are consistently found to be inversely related. Considering this, the present study aims to clarify the relationship between these variables by testing a novel proposed model. By incorporating the equality orientation dimension of individualism and collectivism to evaluate how scores on each of the four dimensions relate to empathy and stigma, the current investigation may resolve inconsistencies in previous literature. It may be the case that horizontal collectivism is linked to greater empathy, while vertical collectivism is linked to higher stigma. Then, examining collectivism without including equality orientations may remove this distinction, creating an oversimplified finding that collectivism is generally associated with high empathy as well as high stigma.

### **Empathy and Controllability Attributions**

Empathetic observers have been shown to make more situational, as opposed to dispositional, causal attributions than non-empathetic observers (Regan & Totten, 1975; Gould & Sigall, 1997). Furthermore, potential helpers who possessed empathetic as opposed to objective outlooks considered victims' plights to be less controllable, indicating that empathy lowers perceptions about controllability (Betancourt, 1990). These findings suggest that subjects who score higher on empathy will be more likely to make low controllability attributions about people experiencing mental illness than less empathetic individuals. This may be because

empathy involves perspective-taking, which allows people to envision alternate possibilities regarding causal variables behind mental suffering that are not a person's fault. Having empathy may also reduce a person's desire to blame another person for their predicament.

### **Controllability Attributions and Mental Illness Stigma**

Mental illnesses tend to involve greater societal stigma than physical illnesses (Corrigan et al., 2000). Origin, the perceived cause of mental illness, is a salient consideration which contributes to societal stigma (Jones et al., 1984). When people perceive that mental illness is a person's fault, stigma and the desire for social distance from that person become more prevalent (Feldman & Crandall, 2007). For instance, manipulating the perceived controllability of a cause behind self-harming alters perceived motivations behind self-harm, which informs whether responses are helpful or rejecting (Nielsen & Townsend, 2018). People with more stigmatizing attitudes tend to make high controllability attributions, such as dispositional instead of situational explanations (Sarge et al., 2020). With respect to mental health attributions, this suggests that people who believe that others experience mental illness due to their own fault, weakness, or poor choices may demonstrate higher levels of mental health stigma. Those who tend to attribute people's mental health struggles to circumstances out of their control tend to have less stigmatizing views.

Considering the relationships outlined above, the current study proposes a novel conceptual model for explaining the relationship between cultural orientations and controllability attributions toward people with mental illness. As displayed in Figure 1, this model hypothesizes that the four cultural orientations (vertical individualism, vertical collectivism, horizontal individualism, and horizontal collectivism) will be associated with different levels of empathy as a dispositional trait. Empathy is predicted to be associated with levels of mental illness stigma,

so that those with higher dispositional empathy have lower levels of mental illness stigma. Lastly, mental illness stigma is expected to be associated with lower controllability attributions in which people are not considered to be at fault for their mental illnesses. Empathy is expected to be a mediator which explains the association between cultural orientations and controllability attributions. Controllability attributions are expected to mediate the relationship between empathy and stigma. Both empathy and controllability attributions are expected to mediate the relationship between cultural orientation and stigma.

## **Methods**

### **Participants and Procedure**

The sample comprises 109 undergraduate students at a small liberal arts school in the United States. Participants' ages ranged from 18-21, with 48 first years, 15 sophomores, 23 juniors, and 23 seniors. Of these participants, 28 identified as male, 80 as female, and one as non-binary. The racial breakdown of subjects is 57.8% white, 12.8% Black, 15.6% Asian, 0.9% American Indian or Alaska Native, 1.8% Native Hawaiian or Other Pacific Islander, and 11% some other race. For ethnicity, 18.3% of subjects indicated Hispanic or Latinx, 79.8% indicated not Hispanic or Latinx, and 1.8% elected not to respond. Of these subjects, 41 were enrolled in an introductory psychology course and were compensated for participation with course credit. Subjects not enrolled in this course were compensated with \$10 Amazon gift cards. All participants indicated informed consent and completed all surveys on their personal electronic devices. The scales were completed in the following order: sociocultural orientation, empathy, controllability attributions, and stigma.

### **Measures**

#### ***Sociocultural Orientation***



To assess participants' sociocultural orientations, the Individualism and Collectivism scale was administered. Triandis and Gelfand (1998) created this 16-item scale by refining the 32-item scale developed by Singelis, Triandis, Bhawuk, & Gelfand (1995). This questionnaire assesses the four orientations (horizontal individualism, horizontal collectivism, vertical individualism, vertical collectivism) as four separate subscales. With 16 items total, each scale contains 4 items to assess an individual's score for that dimension. Horizontal individualism items assess independence and equality preference (e.g., "My personal identity, independent of others, is very important to me"). Vertical individualism items assess competitiveness and hierarchy (e.g., "It's important that I do my job better than others"). Horizontal collectivism items emphasize community and equality (e.g., "If a coworker gets a prize, I would feel proud"). Vertical collectivism items examine interdependence alongside tolerance for hierarchy (e.g., "It is important to me that I respect the decisions made by groups"). Participants indicate responses through 9-point Likert-type scales ranging from 1: Never or definitely no, to 9: Always or definitely yes. Item scores are summed by dimension to yield scores for each of the 4 dimensions. Through factor analysis, the four-factor model has been found to be a greater fit than the two-factor model (Singelis et al., 1995). The four scales have been found to have sufficient internal consistency reliability, as well as convergent and discriminant validity (Singelis, 1994; Singelis et al., 1995; Triandis & Gelfand, 1998). Internal consistency of these scales in the current study = .73, .73, .69 and .71 for, horizontal individualism, vertical individualism, horizontal collectivism, and vertical collectivism, respectively.

### ***Empathy***

To measure participants' empathy, we used the Questionnaire of Cognitive and Affective Empathy (QCAE) developed by Reniers, Corcoran, Drake, Shryane, and Völlm (2011). This

scale contains 31 items, including 19 assessing cognitive empathy and 12 assessing affective empathy. Respondents demonstrate agreement with statements using 4-point Likert-type scales ranging from 1: Strongly disagree to 4: Strongly agree, with higher scores indicating higher levels of empathy. Scale scores for cognitive and affective empathy are created by summing item scores. These scores will then be summed for a composite empathy score. Cognitive empathy items explore participants' ability to mentally understand other people's emotions. Affective empathy items explore participants' ability to recognize and vicariously experience other's feelings (Reniers et al., 2011). Cognitive empathy items assess perspective-taking and online simulation, while affective empathy items assess emotion contagion, proximal responsivity, and peripheral responsivity. For instance, one cognitive empathy item is, "Before criticizing somebody, I try to imagine how I would feel if I was in their place." One affective empathy item is, "People I am with have a strong influence on my mood." The measure has shown sufficient internal consistency and test-retest reliability in a Chinese context, as well as construct validity and reliability in a Turkish context (Liang et al., 2019; Gica et al., 2021). Internal consistency in the current study = .90. Exploratory factor analysis strongly suggested a single factor. Consequently, a single empathy score was calculated instead of separate scores for cognitive and affective empathy.

### ***Controllability Attributions***

To measure participants' attributions about the controllability of mental illness, an expanded version of the Attribution Questionnaire (AQ-27) developed by Corrigan, Markowitz, Watson, Rowan, & Kubiak (2003) was created. This questionnaire directly assesses people's attitudes toward others through reactions to five vignettes about people with mental illnesses. In addition to the AQ-27's vignette about schizophrenia, a new vignette was developed for each of

the following conditions: major depressive disorder, substance use disorder, social anxiety disorder, and obsessive-compulsive disorder. The original vignette states: “Harry is a 30 year-old single man with schizophrenia. Sometimes he hears voices and becomes upset. He lives alone in an apartment and works as a clerk at a large law firm. He had been hospitalized six times because of his illness.” One of the developed vignettes states: “Avery is diagnosed with social anxiety disorder. After an interaction, she repeatedly worries if she has said something awkward and regrets socializing. She has started to avoid social gathering due to the fear of doing something embarrassing.” The current study analyzed data from only the Personal Responsibility subscale of the AQ-27 to directly assess controllability attributions. This contains three items: “I would think that it was Harry’s own fault that he is in the present condition,” “How controllable, do you think, is the cause of Harry’s present condition?” and “How responsible, do you think, is Harry for his present condition?” Responses are given on a Likert-type scale ranging from 0: Not at all, to 9: Very much. This measure’s use of concrete example vignettes uncovers the cognitive beliefs people hold about those with mental illness. Unlike studying behavior alone, this questionnaire provides insight into cognitive processes underlying discrimination, stereotyping, and stigma. Using a vignette bypasses potential confusion or uncertainty that discussing stigma in abstract terms might cause. It may also reduce the risk of social desirability responses. In the current study, internal consistency = .89.

### ***Mental Illness Stigma***

To assess participants’ stigma toward people with mental illness, we administered Day’s Mental Illness Stigma Scale (DMISS) developed by Day, Edgren, and Eshleman (2007). This 28-item scale uses 7-point Likert-type questions ranging from 1: Completely disagree to 7: Completely agree. Items assess interpersonal anxiety (nervousness, fear around people with

mental illness), relationship distress (belief that healthy relationships with people with mental illness are possible), poor hygiene (beliefs about people with mental illness' appearance and physical upkeep), visibility (belief that one can easily identify a person with mental illness), treatability (hopeful beliefs about treatments), professional efficacy (belief that mental health professionals are competent and helpful), and recovery (belief that people with mental illness can recover) (Day et al., 2007). Example items include: "I would find it difficult to trust someone with a mental illness," "I feel nervous and uneasy when I'm near someone with a mental illness," and "People with mental illness tend to neglect their appearance." In the current study, internal consistency for the full 28-item scale = .87.

### **Data Analysis**

Prior to exploring mediation, bivariate correlations between sociocultural orientations, empathy, controllability attributions, and mental illness stigma were determined. Mediation paths were only tested for relationships in which all correlations between variables were significant (Baron & Kenny, 1986). First, this involved confirming that variations in sociocultural orientation, the independent variable, significantly account for variations in stigma, the dependent variable. Then, it was determined if variations in sociocultural orientation significantly accounted for variations in both mediators, empathy and controllability attributions. Third, variations in the mediators must significantly account for variations in the dependent variable, stigma. Finally, when the mediator path was controlled for, calculations explored whether a previously significant relationship between sociocultural orientation and stigma substantially reduced. If so, mediation could be tentatively supported. The Sobel test was used to determine whether this was significant (Sobel, 1982).

### **Results**

Prior to investigating mediation, data analysis examined descriptive statistics, means for demographic factors, and bivariate correlations between all variables. First, analysis explored the relationship between demographic factors and all key variables (see Table 1). For cultural outlooks, male-identifying participants showed significantly higher levels of vertical individualism and vertical collectivism than female-identifying participants. Female-identifying participants scored significantly higher on empathy than male-identifying participants. Male-identifying participants scored significantly higher on controllability attributions, meaning that they attributed more blame to people with mental illnesses for their condition. There were no significant gender differences for stigma.

An analysis of variance (ANOVA) for class year and empathy showed significant differences between college class groups. Juniors and seniors did not have significantly different levels of empathy from each other, but both had significantly higher levels of empathy than first years and sophomores. First years had significantly higher levels of empathy than sophomores. An ANOVA for class year and controllability attributions also showed some significant differences. Seniors scored significantly lower on controllability attributions than first years and sophomores, but the difference between juniors and seniors was not significant. An ANOVA for stigma by class year was nonsignificant.

For race, an ANOVA for horizontal individualism was significant. Paired comparisons showed only a significant difference between White and other-race students, in which White students demonstrated lower horizontal individualism. An ANOVA for vertical individualism was also significant, with Asian students scoring significantly higher than Black and other-race students. White students demonstrated higher vertical individualism than students in the other-race category. The ANOVAs for horizontal collectivism and vertical collectivism did not find

significant differences between racial groups. For empathy, the ANOVA was significant, with follow-up tests indicating Black students demonstrated significantly higher empathetic concern than White and other-race students. The ANOVAs for controllability attributions and stigma were not significant between racial groups. With respect to ethnicity, differences in means were significant for only horizontal collectivism and empathy. Hispanic students demonstrated significantly lower levels of horizontal collectivism and empathy than non-Hispanic students.

Next, bivariate correlations between substantive variables were calculated (see Table 2). Horizontal individualism was not significantly associated with any variables. Vertical individualism was strongly positively correlated with stigma and controllability attributions. Horizontal collectivism was strongly positively correlated with empathy and negatively associated with controllability attributions. Vertical collectivism was positively associated with stigma and controllability attributions. Empathy and controllability attributions were negatively correlated. Controllability attributions and stigma were positively correlated. There was no significant association between empathy and stigma.

Considering significant bivariate correlations, Baron and Kenny's method was used to test three mediation paths. Since controllability attributions and stigma were each significantly associated with both vertical individualism and vertical collectivism, mediation analyses was conducted to test controllability as a mediator of the relations between these cultural orientation variables and stigma. The first regression equation examined vertical individualism as a predictor of stigma and found  $B = .44, p < .001, F(1,107) = 26.29, R^2 = .20$ . Controllability attributions, the mediator, was then added to the second equation and the effect of vertical individualism dropped to  $B = .38, p < .001$ , while  $B = .20, p = .026$  for the mediator, controllability attributions. For the second ANOVA,  $F(2, 106) = 16.21, p < .001, R^2 = .23$ . The Sobel test was

utilized to indicate whether the beta for the IV decreased significantly, thus supporting mediation. The Sobel test marginally indicated mediation for vertical individualism,  $p = 0.057$ .

For vertical collectivism, the correlation with stigma in the first equation was  $B = .24$ ,  $p = .012$ ,  $F(1,107) = 6.55$ ,  $p = .012$ ,  $R^2 = .06$ . After adding controllability as a mediator, the beta dropped to  $B = .18$ ,  $p = .059$  for the IV, the beta for the mediator was  $B = .29$ ,  $p = .003$ , with  $R^2 = .14$ . For the second ANOVA,  $F(2,106) = 8.31$ ,  $p < .001$ . Again, the Sobel test marginally supported mediation,  $p = 0.059$ .

The third regression equation tested empathy as a mediator in the relationship between horizontal collectivism and controllability attributions. The first equation found  $B = -.24$ ,  $p < .05$ , for horizontal collectivism,  $F(1,107) = 6.36$ ,  $p = .013$ ,  $R^2 = .06$ . After adding empathy as a mediator,  $F(2,106) = 3.86$ ,  $p = .024$ ,  $R^2 = .07$ , the beta for horizontal collectivism dropped to  $B = -.18$ ,  $p = .08$ , and the beta for the mediator, empathy, was  $B = -.12$ ,  $p = .248$ . Therefore, mediation was not supported.

### Discussion

The current study explored interrelations between cultural orientations, empathy, controllability attributions, and stigma regarding mental illness. Participants who scored highly on vertical individualism and vertical collectivism also scored highly on stigma and made more blaming attributions. Those who scored highly on horizontal collectivism also scored higher on empathy and made attributions that were less blaming. Participants who made highly blaming attributions tended to have reduced empathy and increased stigma. The tendency to make blameful attributions was marginally supported as a mediator in the relationship between vertical individualism and stigma, as well as between vertical collectivism and stigma. However,

empathy was not supported as a mediator in the relationship between horizontal collectivism and controllability attributions.

Analyses revealed that cultural orientations are important predictors of empathy, controllability attributions, and mental illness stigma. Consistent with expectations, high levels of horizontal collectivism were linked to greater empathy. As no other cultural orientation was associated with empathy, this finding suggests that the combination of collectivist tendencies and aversion to inequality may uniquely increase tendencies for empathetic concern. This may result from people with collectivist leanings experiencing more other-focused emotions (Kitayama & Markus, 1994), with egalitarian preferences amplifying concern for others' well-being. People who adamantly oppose societal inequality are more likely to empathize with others through perspective-taking and affective transfer. In contrast, the competitive drive to be above others that is associated with vertical orientations may compromise people's empathic abilities (Nordfjærn et al., 2014).

With respect to controllability attributions, making highly blameful attributions was strongly linked to vertical individualism, mildly associated with vertical collectivism, and mildly negatively associated with horizontal collectivism, corroborating hypotheses for three of the four cultural orientations. As expected, people who scored highly on vertical individualism were particularly likely to make blameful attributions. This validates previous findings from a Chinese sample in which vertical individualism was linked with higher perceived responsibility for acquiring a disability (Rao et al., 2010). This suggests that combining competitive, individualist values with a desire to be above others in social hierarchy makes people prone to making more judgemental attributions about why others experience hardship. The negative association between horizontal collectivism and controllability attributions may be partially due to



collectivists' tendency to make situational, not dispositional, attributions (Krull et al., 1999). Combined with horizontal collectivists' desire to be equal to others, this might lead to more hesitancy to blame others for their struggles. In comparison to vertical individualism's strong association with blaming, vertical collectivism being mildly positively associated with blaming attributions suggests that collectivist tendencies partially buffer the blaming effects of verticality. This may be because seeing others as connected to oneself leads to being more understanding and less blaming when others endure hardship, even if one tolerates inequality.

Analyses also suggest that cultural orientations influence levels of stigma toward individuals dealing with mental illness. Vertical collectivism was positively correlated with stigma, and stigma was particularly closely linked to high levels of vertical individualism. Although past literature suggests that collectivism is linked to higher stigma than individualism (Papadopoulos et al., 2002), the pattern of findings in the current study are not consistent with this proposal, suggesting that collectivism-individualism may only influence attitudes toward mental illness at the country level, but does not influence within-culture individual differences. It may also be the case that when the vertical-horizontal dimension is added to individualism and collectivism frameworks, the interaction between verticality and individualism outweighs the stigma-increasing effects of collectivism. Within individualist societies, combining the competitive edge of autonomous individualism with a tolerance for inequality may create a particularly high capacity for stigmatizing, judgmental beliefs about others. This expands upon past findings that verticality is associated with more stigmatizing views about intellectual disabilities, such as autism (Ditchman et al., 2017; Kim et al., 2022).

Participants who demonstrated higher empathy tended to make less blameful attributions after reading vignettes about people struggling with various mental illnesses. Although empathy

did not have a direct relationship with stigma, empathy's relationship with perceived controllability of mental illness suggests that it is nonetheless involved in the formation of attitudes about individuals with mental illness. It may be the case that empathy is involved in blame-related beliefs but not other facets of stigma which the stigma scale assessed, such as hygiene and treatability. Empathy might lead to lower perceived controllability through both cognitive and affective routes. The ability to practice perspective-taking is a central component of empathy, and may explain why empathetic observers tend to make situational attributions that consider people's context (Gould & Sigall, 1977; Regan & Totten, 1975). Imagining oneself in another's situation may lead to making attributions that are more forgiving and less blameful. Additionally, when someone with greater empathic capacity learns about the personal struggles of someone battling mental illness, feelings of sympathy and sadness may lead to making more forgiving attributions. As opposed to considering someone's suffering to be their own fault, empathy allows observers to center compassion as opposed to judgment in their beliefs about others. The interaction between empathy and controllability attributions may serve the important function of promoting prosocial helping behavior (Betancourt, 1990).

Consistent with predictions, participants who believed that others are at more fault for their mental health diagnoses were more likely to endorse stigmatizing statements about people with mental illness. For instance, someone who believes that another person is responsible for developing depression may be more likely to believe that people with depression have poor hygiene. In this sense, beliefs regarding perceived controllability inform beliefs about symptomatology. Past research suggests that perceptions about controllability may influence stigma because people desire more social distance from those who they believe are responsible for their own distress (Feldman & Crandall, 2007). The stigma-reducing success of an

educational intervention about the uncontrollable aspects of obesity provides further evidence that targeting controllability beliefs can directly counteract stigma (Crandall, 1994). The current study's findings suggest that the potential of interventions targeting controllability beliefs extends to mental illness stigma.

The current study's results suggest that incorporating the equality orientation dimension into cultural orientations may help resolve tension in previous literature regarding the relationship between cultural outlooks and stigma. Specifically, the fact that both vertical sociocultural orientations, but neither horizontal orientation, were positively associated with stigma demonstrates that tolerance for inequality may be an important predictor of mental illness stigma. Furthermore, both vertical individualism and vertical collectivism were associated with significantly higher controllability attributions (greater blame). Empathy was strongly correlated with horizontal collectivism, but not other cultural orientation tendencies, suggesting that this combination of cultural orientation factors has a particularly valuable influence on empathy. Pairing the desire for societal equality with an other-focused outlook may create especially strong empathic abilities that are absent when one of these qualities is not present. Therefore, our results emphasize the importance of pushing beyond traditional individualism-collectivism frameworks in favor of multi-faceted frameworks which consider attitudes about societal equality.

Although the present study's mediational model was not strictly supported, the marginal significance of the Sobel test suggests that partial mediation may be deserving of further exploration. Specifically, controllability attributions may partially explain the relationship between vertical sociocultural orientations and mental illness stigma. This is consistent with a previous finding that controllability beliefs partially mediate the relationship between employers'

cultures and their negative attitudes about disabilities (Rao et al., 2010). Vertical orientations may lend themselves to blaming attitudes due to a lack of egalitarianism. Not seeing others as equal to oneself could make people more likely to blame others for their struggles, which leads to more generally stigmatizing views. Because this path from orientation to stigma was not completely mediated, potential direct effects and other mediating variables warrant further attention. Vertical individualism may directly lead to stigma if people view others as belonging within hierarchies, thereby positioning those with mental illness below others. Future research should also investigate potential factors beyond controllability beliefs which may contribute to the relationship between verticality and stigma. For instance, pity, dangerousness, and stability have been identified as other dimensions of attitudes about mental illness which inform stigma (Corrigan et al., 2000; Corrigan et al., 2001), and which may be shaped by cultural orientation processes.

Despite demographic differences not being a primary focus of this study, our findings regarding group differences were informative. Older students demonstrated significantly higher empathy and made significantly less blameful attributions than younger students. This suggests that college experience, especially as encountered at a small liberal arts institution, promotes the development of empathy and encourages people to be more forgiving when judging others. As people develop during the college years, they may consider more situational explanations for people's suffering with mental illness, as opposed to making dispositional attributions which blame people for their condition.

With respect to gender, male-identifying participants scored significantly higher on controllability attributions and on both vertical sociocultural orientations than females. As expected, female-identifying participants also displayed significantly more empathy. These

patterns have been established in past literature and may result from differential patterns of socialization (Pohl et al., 2005), causing female-identifying individuals to be less blaming and more empathetic regarding other people's mental health conditions. A relevant confounding factor in this relationship is that women have higher rates of mental health diagnoses than men, particularly for internalizing disorders (Seedat et al., 2009). This could contribute to female-identifying participants being more forgiving when making judgments about other people who experience mental illness, as they more frequently experience mental illness. Women have been found to possess lower levels of stigma toward people with mental illness (Stickney et al., 2012), although this was not corroborated in the current study.

Differences that emerged across racial groups are of interest as well. Black students demonstrated the highest empathy, suggesting that people who are most marginalized have the greatest empathy for others. This is consistent with past research, which found that people who feel they have less power demonstrate greater neural mirroring responses than those who have greater power (Hogeveen, Inzlicht, & Obhi, 2014). Racial differences were also prominent across the four cultural orientations, as Asian students showed significantly higher levels of vertical individualism. This may be due to cultural emphasis on achievement and success, which resembles the competitive edge of vertical individualist attitudes (Schneider & Lee, 1990). Future research should continue to explore how demographic factors such as race, age, and gender influence tolerance for inequality, tendency to blame others, and mental illness stigma.

A strength of this study's sample is its diversity with respect to class year and race. Additionally, reforming a previous version of the Attributions Questionnaire led to an internally consistent measure of controllability attributions which incorporates several different mental illnesses. This was a successful alternative to the original questionnaire which only included

schizophrenia, a disorder that people may tend to perceive as less controllable than others, such as Substance Use Disorder. Controllability attributions being significantly associated with all other scales, with the sole exception of horizontal individualism, reveals the value of this study's attempt to extend the study of sociocultural orientations to examine controllability attributions. This study also makes significant contributions to our understanding of how cultural orientations operate on an individual level, as opposed to using the cross-cultural scope traditionally used for studying individualism and collectivism.

Despite these strengths, this study does contain limitations. First, the sample's diversity was unsatisfactory for gender, having many more female-identifying participants than male-identifying participants. Additionally, the sample contained a large number of students taking psychology classes, such as psychology majors and students taking Introduction to Psychology. Due to having more education about mental illness, psychology students likely hold less stigmatizing views about mental illness than students taking courses in other disciplines. The politically liberal, open-minded orientation of the institution's student body also lends itself to more empathetic, less blaming, and less stigmatizing views that may not be representative of students attending other institutions, or the American population as a whole.

The current findings contain important takeaways for efforts geared toward reducing societal stigma. Since vertical equality orientations were strongly associated with increased stigma and blaming attributions, interventions which emphasize seeing others as equal may be beneficial for countering stigmatizing beliefs. Promoting egalitarianism and encouraging people to tap into a sense of common humanity may be a valuable technique for challenging people's judgmental views about those with mental illness. Furthermore, considering that controllability attributions contribute to stigma, education about mental illness should emphasize that

manifestation of symptoms is often not controllable. Specifically, education should highlight that people do not bear sole responsibility for the development of their mental health conditions, thereby countering stigmatizing views of mental illness as a personal weakness or failure.

### References

- Abdullah, T., & Brown, T. L. (2011). Mental illness stigma and ethnocultural beliefs, values, and norms: An integrative review. *Clinical Psychology Review, 31*(6), 934–948.  
<https://doi.org/10.1016/j.cpr.2011.05.003>
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173–1182.  
<https://doi.org/10.1037/0022-3514.51.6.1173>
- Corrigan, P. W., River, L. P., Lundin, R. K., Uphoff-Wasowski, K., Campion, J., Mathisen, J., Goldstein, H., Bergman, M., Gagnon, C., & Kubiak, M. A. (2000). Stigmatizing attributions about mental illness. *Journal of Community Psychology, 28*(1), 91–102.  
[https://doi.org/10.1002/\(SICI\)1520-6629\(200001\)28:1<91::AID-JCOP9>3.0.CO;2-M](https://doi.org/10.1002/(SICI)1520-6629(200001)28:1<91::AID-JCOP9>3.0.CO;2-M)
- Corrigan, P. W., River, L. P., Lundin, R. K., Penn, D. L., Uphoff-Wasowski, K., Campion, J., Mathisen, J., Gagnon, C., Bergman, M., Goldstein, H., & Kubiak, M. A. (2001). Three strategies for changing attributions about severe mental illness. *Schizophrenia Bulletin, 27*(2), 187–195. <https://doi.org/10.1093/oxfordjournals.schbul.a006865>
- Crandall, C. S. (1994). Prejudice against fat people: Ideology and self-interest. *Journal of Personality and Social Psychology, 66*(5), 882–894.  
<https://doi.org/10.1037/0022-3514.66.5.882>
- Ditchman, N., Easton, A. B., Batchos, E., Rafajko, S., & Shah, N. (2017). The impact of culture on attitudes toward the sexuality of people with intellectual disabilities. *Sexuality and Disability, 35*(2), 245–260. <https://doi.org/10.1007/s11195-017-9484-x>



- Duan, C., Wei, M., & Wang, L. (2008). The role of individualism-collectivism in empathy: An exploratory study. *Asian Journal of Counselling, 15*(1), 57-81.  
[https://www.hkier.cuhk.edu.hk/journal/document/AJC/ajc\\_v15n1\\_57-81.pdf](https://www.hkier.cuhk.edu.hk/journal/document/AJC/ajc_v15n1_57-81.pdf)
- Eagles, J. M., Carson, D. P., Begg, A., & Naji, S. A. (2003). Suicide prevention: A study of patients' views. *The British Journal of Psychiatry, 182*(3), 261–265.  
<https://doi.org/10.1192/bjp.182.3.261>
- Earley, P. C., & Gibson, C. B. (1998). Taking stock in our progress on individualism-collectivism: 100 years of solidarity and community. *Journal of Management, 24*(3), 265–304. [https://doi.org/10.1016/S0149-2063\(99\)80063-4](https://doi.org/10.1016/S0149-2063(99)80063-4)
- Fatehi, K., Priestley, J.L., & Taasoobshirazi, G. (2020). The expanded view of individualism and collectivism: One, two, or four dimensions? *International Journal of Cross Cultural Management, 20*, 24-7. <https://doi.org/10.1177/1470595820913077>
- Feldman, D. B., & Crandall, C. S. (2007). Dimensions of mental illness stigma: What about mental illness causes social rejection? *Journal of Social and Clinical Psychology, 26*(2), 137–154. <https://doi.org/10.1521/jscp.2007.26.2.137>
- Gillespie-Lynch, K., Daou, N., Sanchez-Ruiz, M.-J., Kapp, S. K., Obeid, R., Brooks, P. J., Someki, F., Siltan, N., & Abi-Habib, R. (2019). Factors underlying cross-cultural differences in stigma toward autism among college students in Lebanon and the United States. *Autism, 23*(8), 1993–2006. <https://doi.org/10.1177/1362361318823550>
- Gica, Ş., Büyükavşar, A., İyisoy, M. S., & Güleç, H. (2021). Psychometric properties of Questionnaire of Cognitive and Affective Empathy (QCAE): Reliability and factor analysis study in Turkish sample. *Nöropsikiyatri Arşivi, 58*(3), 228–233.  
<https://doi.org/10.29399/npa.27248>

- Heinke, M. S., & Louis, W. R. (2009). Cultural background and individualistic-collectivistic values in relation to similarity, perspective taking, and empathy. *Journal of Applied Social Psychology, 39*(11), 2570–2590.  
<https://doi.org/10.1111/j.1559-1816.2009.00538.x>
- Hofstede, G. (1980). *Culture's consequences: International differences in work related values*. Beverly Hills, CA: Sage Publications.
- Huang, R., Ren, X., She, L., & Huang, M. (2014). Urban-rural differences on independence. *Chinese Journal of Clinical Psychology, 22*(6), 1099–1102.  
<https://doi.org/10.1111/inm.12666>
- Jaques, M. E., Burleigh, D., & Lee, G. (1973). Reactions to disabilities in China: A comparative, structural and descriptive analysis. *Rehabilitation Counselling Bulletin, 16*, 54–62.
- Jones, E., Farina, A., Hastorf, A., Markus, H., Miller, D. T., & Scott, R. (1984). *Social stigma: The psychology of marked relationships*. Freeman.
- Kim, S. Y., Cheon, J. E., Gillespie-Lynch, K., & Kim, Y.-H. (2022). Is autism stigma higher in South Korea than the United States? Examining cultural tightness, intergroup bias, and concerns about heredity as contributors to heightened autism stigma. *Autism, 26*(2), 460–472. <https://doi.org/10.1177/13623613211029>
- Kitayama, S., & Markus, H. R. (1994). *Emotion and culture: Empirical studies of mutual influence*. American Psychological Association. <https://doi.org/10.1037/10152-000>
- Kresovich, A. (2022). The influence of pop songs referencing anxiety, depression, and suicidal ideation on college students' mental health empathy, stigma, and behavioral intentions. *Health Communication, 37*(5), 617–627. <https://doi.org/10.1080/10410236.2020.1859724>

- Krull, D. S., Loy, M. H.-M., Lin, J., Wang, C.-F., Chen, S., & Zhao, X. (1999). The fundamental attribution error: Correspondence bias in individualist and collectivist cultures. *Personality and Social Psychology Bulletin*, *25*(10), 1208–1219.  
<https://doi.org/10.1177/0146167299258003>
- Liang, Y. S., Yang, H. X., Ma, Y. T., Lui, S. S. Y., Cheung, E. F. C., Wang, Y., & Chan, R. C. K. (2019). Validation and extension of the Questionnaire of Cognitive and Affective Empathy in the Chinese setting. *Psych Journal*, *8*(4), 439–448.  
<https://doi.org/10.1002/pchj.281>
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, *98*(2), 224–253.  
<https://doi.org/10.1037/0033-295X.98.2.224>
- Matsuoka, J. K., Breaux, C., & Ryujin, D. H. (1997). National utilization of mental health services by Asian Americans/Pacific Islanders. *Journal of Community Psychology*, *25*(2), 141-145.  
[https://doi.org/10.1002/\(SICI\)1520-6629\(199703\)25:2<141::AID-JCOP3>3.0.CO;2-0](https://doi.org/10.1002/(SICI)1520-6629(199703)25:2<141::AID-JCOP3>3.0.CO;2-0)
- Nielsen, E., & Townsend, E. (2018). Public perceptions of self-harm—A test of an attribution model of public discrimination. *Stigma and Health*, *3*(3), 204–218.  
<https://doi.org/10.1037/sah0000090>
- Nordfjærn, T., & Şimşekoğlu, Ö. (2014). Empathy, conformity, and cultural factors related to aberrant driving behaviour in a sample of urban Turkish drivers. *Safety Science*, *68*, 55–64. <https://doi.org/10.1016/j.ssci.2014.02.020>
- Owens, R. L., Heaslip, S., & Thombre, M. (2022). The Impact of Strengths-Based Assessment Education on Undergraduate Students' Knowledge of Disorders and Mental Illness

Stigma. *Teaching of Psychology*, 49(4), 315–322.

<https://doi.org/10.1177/00986283211015359>

Oyserman, D., Coon, H. M., & Kemmelmeier, M. (2002). Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin*, 128(1), 3–72. <https://doi.org/10.1037/0033-2909.128.1.3>

Oyserman, D. (2006). High Power, Low Power, and Equality: Culture Beyond Individualism and Collectivism. *Journal of Consumer Psychology*, 16(4), 352–356.

[https://doi.org/10.1207/s15327663jcp1604\\_6](https://doi.org/10.1207/s15327663jcp1604_6)

Papadopoulos, C., Leavey, G., & Vincent, C. (2002). Factors influencing stigma: A comparison of Greek-Cypriot and English attitudes towards mental illness in north London. *Social Psychiatry and Psychiatric Epidemiology: The International Journal for Research in Social and Genetic Epidemiology and Mental Health Services*, 37(9), 430–434.

<https://doi.org/10.1007/s00127-002-0560-9>

Papadopoulos, C., Foster, J., & Caldwell, K. (2012). ‘Individualism-collectivism’ as an explanatory device for mental illness stigma. *Community Mental Health Journal*, 49(3), 270–280. <https://doi.org/10.1007/s10597-012-9534-x>

Parker, W., Schubert, J., Owusu-Ansah, S., Asante-Afari, K., Assisi, S. E., Adiku, E. D., Pennas, T., & Williams, S. E. (2020). Addressing community-level stigma toward key populations: Communication insights from action research in Ghana. *African Journal of AIDS Research*, 19(2), 109–116. <https://doi.org/10.2989/16085906.2020.1743727>

Pohl, R.F., Bender, M., & Lachmann, G. (2005). Autobiographical memory and social skills of men and women. *Applied Cognitive Psychology*, 19(6), 745–759.

<https://doi.org/10.1002/acp.1104>

- Rao, D., Horton, R. A., Tsang, H. W. H., Shi, K., & Corrigan, P. W. (2010). Does individualism help explain differences in employers' stigmatizing attitudes toward disability across Chinese and American cities? *Rehabilitation Psychology, 55*(4), 351–359.  
<https://doi.org/10.1037/a0021841>
- Saguem, B. N., Rhouma, A., & Nakhli, J. (2022). Stigma of mental illness and its association with empathic abilities in mental health trainees. *Stigma and Health, 7*(4), 423–431.  
<https://doi.org/10.1037/sah0000418>
- Sarge, M. A., Kim, H.-S., & Velez, J. A. (2020). An Anti-Sim intervention: The role of perspective taking in combating public stigma with virtual simulations. *Cyberpsychology, Behavior, and Social Networking, 23*(1), 41–51. <https://doi.org/10.1089/cyber.2019.0678>
- Schneider, B. and Lee, Y. (1990), A Model for Academic Success: The School and Home Environment of East Asian Students. *Anthropology & Education Quarterly, 21*: 358-377.  
<http://doi.org/10.1525/aeq.1990.21.4.04x0596x>
- Seedat S, Scott KM, Angermeyer MC, et al. Cross-National Associations Between Gender and Mental Disorders in the World Health Organization World Mental Health Surveys. *Arch Gen Psychiatry. 2009;66*(7):785–795. <http://doi.org/10.1001/archgenpsychiatry.2009.36>
- Singelis, T. M., Triandis, H. C., Bhawuk, D. P. S., & Gelfand, M. J. (1995). Horizontal and Vertical Dimensions of Individualism and Collectivism: A Theoretical and Measurement Refinement. *Cross-Cultural Research, 29*(3), 240–275.  
<https://doi.org/10.1177/106939719502900302>
- Shavitt, S., Johnson, T. P., & Zhang, J. (2011). Horizontal and vertical cultural differences in the content of advertising appeals. *Journal of International Consumer Marketing, 23*(3–4), 297–310. <https://doi.org/10.1080/08961530.2011.578064>

- Shavitt, S., Lalwani, A. K., Zhang, J., & Torelli, C. J. (2006). The horizontal/vertical distinction in cross-cultural consumer research. *Journal of Consumer Psychology, 16*(4), 325-342. [https://doi.org/10.1207/s15327663jcp1604\\_3](https://doi.org/10.1207/s15327663jcp1604_3)
- Sobel, M. E. (1982). Asymptotic Confidence Intervals for Indirect Effects in Structural Equation Models. *Sociological Methodology, 13*, 290–312. <https://doi.org/10.2307/270723>
- Stickney, S., Yanocky, D., Black, D. R., & Stickney, N. L. (2012). Socio-demographic variables and perceptual moderators related to mental health stigma. *Journal of Mental Health, 21*(3), 244-256. <http://doi.org/10.3109/09638237.2012.670878>
- Sunar, D., Cesur, S., Piyale, Z. E., Tepe, B., Biten, A. F., Hill, C. T., & Koc, Y. (2021). People respond with different moral emotions to violations in different relational models: A cross-cultural comparison. *Emotion, 21*(3), 693-706. <http://doi.org/10.1037/emo0000736.supp>
- Thornicroft, G., Rose, D., & Kassam, A. (2007). Discrimination in health care against people with mental illness. *International Review of Psychiatry, 19*(2), 113–122. <https://doi.org/10.1080/09540260701278937>
- Thornicroft, G. (2007). Most people with mental illness are not treated. *The Lancet, 370*(9590), 807–808. [https://doi.org/10.1016/S0140-6736\(07\)61392-0](https://doi.org/10.1016/S0140-6736(07)61392-0)
- Triandis, H. C., & Gelfand, M. J. (1998). Converging measurement of horizontal and vertical individualism and collectivism. *Journal of Personality and Social Psychology, 74*(1), 118–128. <https://doi.org/10.1037/0022-3514.74.1.118>
- Weiner, B. (1972). Attribution Theory, Achievement Motivation, and the Educational Process. *Review of Educational Research, 42*(2), 203–215. <https://doi.org/10.3102/00346543042002203>

**Table 1**

*Descriptive statistics*

|               | Total        |             | Gender      |                      | Class Year |            |            |            | Race              |             |             |             | Ethnicity   |        |             |             |                     |
|---------------|--------------|-------------|-------------|----------------------|------------|------------|------------|------------|-------------------|-------------|-------------|-------------|-------------|--------|-------------|-------------|---------------------|
|               | Total M (SD) | Male M (SD) | Fem. (SD)   | Gender t (df=1, 106) | First year | Soph       | Jr.        | Sr.        | Age F (df= 3,105) | Black       | Asian       | White       | Other Race  | Race F | Hisp.       | Non-Hisp.   | Ethn. t (df= 3,105) |
| HI            | 6.87 (1.12)  | 6.81 (1.18) | 6.90 (1.11) | -.35                 | 7.13       | 6.65       | 6.47       | 6.88       | 2.11              | 6.93 (.92)  | 6.99 (1.11) | 6.71 (1.15) | 7.38 (1.13) | 1.59   | 6.99 (1.17) | 6.82 (1.11) | .62                 |
| VI            | 5.56 (1.35)  | 5.90 (1.26) | 5.45 (1.37) | 1.52*                | 5.73       | 5.68       | 5.69       | 5.00       | 1.74              | 5.20 (1.46) | 6.21 (1.24) | 5.64 (1.19) | 4.87 (1.66) | 3.22 * | 5.04 (1.30) | 5.66 (1.34) | -1.88               |
| HC            | 7.11 (.98)   | 6.96 (1.06) | 7.18 (.96)  | -.98                 | 6.92       | 7.02       | 7.46       | 7.23       | 1.73              | 7.45 (.96)  | 6.90 (.83)  | 7.17 (.93)  | 6.82 (1.28) | 1.34   | 6.74 (1.26) | 7.22 (.89)  | -1.99*              |
| VC            | 5.98 (1.21)  | 6.59 (1.41) | 5.77 (1.07) | 3.20*                | 6.06       | 5.78       | 6.24       | 5.69       | 1.00              | 5.45 (1.04) | 6.25 (1.05) | 5.95 (1.21) | 6.31 (1.43) | 1.56   | 6.21 (1.32) | 5.96 (1.18) | .85                 |
| Emp.          | 3.15 (0.41)  | 2.99 (.48)  | 3.21 (.37)  | -2.48*               | 3.09 (.41) | 2.81 (.37) | 3.30 (.33) | 3.34 (.32) | 7.87*             | 3.39 (.26)  | 3.17 (.39)  | 3.13 (.39)  | 2.97 (.53)  | 2.91 * | 2.96 (.45)  | 3.19 (.39)  | -2.33*              |
| Cont. Attrib. | 2.94 (1.11)  | 3.37 (1.19) | 2.78 (1.05) | 2.49*                | 3.25 (1.0) | 3.02 (1.4) | 2.89 (1.0) | 2.28 (.96) | 4.36*             | 3.03 (1.03) | 3.53 (1.12) | 2.79 (1.11) | 2.81 (1.02) | 2.17   | 3.03 (.83)  | 2.93 (1.18) | .36                 |
| Stigma        | 2.88 (.62)   | 2.81 (.69)  | 2.90 (.60)  | -.68                 | 2.96 (.62) | 2.57 (.62) | 3.05 (.68) | 2.73 (.44) | 2.65              | 2.82 (.53)  | 3.17 (.65)  | 2.86 (.56)  | 2.67 (.81)  | 1.90   | 2.80 (.79)  | 2.90 (.58)  | -.61                |

*Note.* HI = horizontal individualism, VI = vertical individualism, HC = horizontal collectivism, VC = vertical collectivism, Emp. = empathy, Cont. Attrib. = controllability attributions.

p < .05 = \*, p < .01 = \*\*

**Table 2**

*Bivariate correlations*

| Scale                        | Horizontal Individualism | Vertical Individualism | Horizontal Collectivism | Vertical Collectivism | Empathy | Control Attributions |
|------------------------------|--------------------------|------------------------|-------------------------|-----------------------|---------|----------------------|
| Vertical Individualism       | -.251**                  | -                      | -                       | -                     | -       | -                    |
| Horizontal Collectivism      | -.215*                   | -.203*                 | -                       | -                     | -       | -                    |
| Vertical Collectivism        | .106                     | .264**                 | .267**                  | -                     | -       | -                    |
| Empathy                      | -.11                     | -.044                  | 0.438**                 | .114                  | -       | -                    |
| Controllability Attributions | .151                     | .323**                 | -.237*                  | .222*                 | -.202*  | -                    |
| Stigma                       | .080                     | .444**                 | -.081                   | .240*                 | .144    | .326**               |

p < .05 = \*, p < .01 = \*\*

**Figure 1**

*Conceptual Path Diagram*

