

Accounting for Differences in Depression Stigma Between Canadian Asians and Europeans

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Abstract

Stigma is an important barrier to recovery from depression. Individuals of Asian origin show greater levels of depression stigma compared with individuals of European origin. This study examined the mediators of the relationship between ethnicity and depression stigma in a North American context. A sample of university students, including 199 Canadian Europeans and 249 Canadian Asians, completed a variety of measures through an online study. Stigma toward an individual with depression was measured using both the Depression Attribution Questionnaire-27 and a Social Distance Scale. The perception of social norms, the belief that depression brings shame to one's family, a social dominance orientation, and conservative values mediated the relationship between ethnicity and depression stigma with perceived norms and familial shame having the largest indirect effects. These findings are consistent with social identity theory and suggest avenues for anti-stigma interventions.

Keywords

stigma, major depression, social norms, shame, Asian

Major depressive disorder (MDD) affects more than 350 million individuals globally and is the leading contributor to disability worldwide (World Health Organization, 2012). MDD has a life-time prevalence rate between 10% and 15% in North America (Andrade et al., 2003). Within North America, individuals of Asian origin show either similar or higher rates of mental disorders compared with individuals of European origin.¹ Asian international students show higher rates of depression and adjustment problems compared with the general student population (Leong & Chou, 2002). Although effective treatments are available, 50% of individuals with depression fail to seek mental health services (Cheung & Dewa, 2007), with Asians being less likely to seek mental health services and more likely to terminate these services if initiated compared with Europeans (Sue & Sue, 2008; U.S. Public Health Service, 2001).

Stigma, a mark of disgrace associated with a particular individual, quality, or circumstance, has been identified as an important factor associated with the lack of health care utilization in the

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treatment of depression (Corrigan & Wassel, 2008). Stigma is found cross-culturally but differences are observed in the degree to which certain cultures stigmatize. When compared across countries, Asians show greater stigmatization toward mental disorders than do Europeans (Hsu et al., 2008; Rao, Feinglass, & Corrigan, 2007; Shea & Yeh, 2008). However, at this time there is a paucity of research examining variations in stigma among cultures within the same region (Abdulla & Brown, 2011). As North America is a multicultural continent, ethnicity differences in stigma are important to consider when conducting stigma research or implementing anti-stigma programs within this population.

Correlates of Stigma

Among European populations, stigma toward individuals with mental disorders has been related to both conservative values, which emphasize personal control, tradition, conformity, and responsibility for one's behavior (Norman, Sorrentino, Windell, & Manchanda, 2008a; Weiner, 1995), and a social dominance orientation (SDO), which reflects a hierarchical worldview promoting the separation of groups in society (Bizer, Hart, & Jokegian, 2012; Phelan & Basow, 2007; Schwartz, 1992, 1994). Higher scores on both conservative value measures (e.g., D'Andrade, 2008; Schwartz, 2006, 2007) and SDO measures (e.g., Fischer, Hanke, & Sibley, 2012; Pratto et al., 2000) are found for Asian countries, including China, Japan, and Pakistan, compared with Western-European countries. Therefore, it is likely that Asians will show higher levels of SDO and conservative values than Europeans, which may in turn account for differences in stigma between Canadian Asians and Europeans.

Perception of Social Norms

Although conservative values and SDO account for differences in depression stigma among Europeans, a significant proportion of variance remains largely unaccounted for. Turner (1991) suggested that social norms play an important role in determining behavior as living in cooperative, interdependent groups has been advantageous for the survival and propagation of the human species (Campbell, 1982). According to social identity theory, social groups are represented cognitively as a category prototype, which defines a set of attributes that are interrelated and capture both within-group similarities and between-group differences. Category prototypes prescribe what attitudes members should hold and how members should behave. As these prototypes are shared within a group, they constitute what is termed social or group norms (Hogg & Smith, 2007).

The categorization of individuals as either in-group or out-group members of certain social groups allows for efficiency in decision making (Linville, 1985). As a result, people are not seen as idiosyncratic but rather as prototypes of their reference group, expected to hold certain attitudes and behave in certain ways. Individuals construct meaning of the world through their interactions with others, internalizing the social norms of the group as they assimilate into the group (Rieber & Robinson, 2004). As the group norms are internalized, they become interchangeable with an individual's own personal attitudes and behaviors (Smith & Hogg, 2008), thus acting through a process of cognitive internalization, as opposed to behavioral compliance (Hogg & Smith, 2007).

Relevant to the present study, Goffman (1963) emphasized that an individual's perception of social norms can influence his or her behavioral responses to those belonging to stigmatized groups. Norman, Sorrentino, Windell, and Manchanda (2008b) found that the perception of social norms was the single best predictor of desired social distance toward an individual with depression after accounting for beliefs related to the illness specifically, such as personal responsibility, weakness, and low expectancy for recovery.

Perceived social norms may account for part of the difference in stigma found between Asians and Europeans. Hsu et al. (2008) compared stigma toward depression between European Americans and Chinese Americans. Stigma was assessed using 25 statements reflecting six stigma factors, including cognitive distortion, shame, fear, discrimination, social sanction, and social consensus. Chinese Americans showed greater stigma toward individuals with depression, discrimination, social sanction, and social consensus (which can be seen as being reflective of perceived norms [PNO]). As this study did not include measures of conservative values or a SDO, it is unclear whether the perception of social norms mediates this relationship in the context of these other relevant variables.

Asian Cultural Differences

Depression

Previous research has found that Western Europeans endorse more affective and existential symptoms, such as depressed mood and hopelessness, whereas Asians endorse more somatic symptoms of depression, such as changes in appetite and sleep problems, despite awareness of the “psychological” problem (Kalibatseva & Leong, 2011). Therefore, to ensure that both Asians and Europeans understood the concept of depression, both somatic and affective indicators were used to illustrate depression in the stimulus (see the Appendix). Furthermore, symptoms suggested to be related to Judeo-Christian religious beliefs, such as excessive guilt and feelings of worthlessness, were not included in the stimulus.

Stigma

Cultural variables may shape the attitudes and beliefs individuals hold toward those with mental disorders (Cheon & Chiao, 2012). Asian cultures emphasize collectivism, or the interdependence of individuals (Shea & Yeh, 2008). In collectivist cultures, group goals and needs are prioritized above individual ones. Cohesion within social groups and maintaining group harmony are of central importance (Lam, Tsang, Chan, & Corrigan, 2006; Yang, 2007). Emotional expression is viewed as a weakness that brings disgrace to the family (Shea & Yeh, 2008), whereas individual achievement, in both academic and occupational contexts, is highly valued and strongly reflects on one's whole family in Asian cultures (Abdulla & Brown, 2011). Chinese Americans stigmatize depression more than biological illnesses, and show greater stigma toward general depression, which encompasses greater emotional factors, compared with somatic depression (Hsu et al., 2008). Furthermore, symptoms of depression relate strongly to the decreased ability to achieve success in both academic and employment contexts (Lepine & Briley, 2011). Considering that the self is often defined in terms of the group in Asian cultures, individual factors are evaluated to reflect the whole family. As a result of the emotional expression and decreased ability to achieve inherent in depression, it is likely that a diagnosis of depression would bring shame to the individual and by extension the individual's family, carrying with it stigma. Therefore, Asians may stigmatize depression more than do Europeans because depression brings shame to the family in Asian cultures.

A Note on Acculturation

In most large, cross-cultural comparative studies, countries are often treated as the cultural unit (Schwartz, 2007). Therefore, research on cultural differences is based largely on individuals residing within a specific country. When examining the influence of cultural variables on stigma among immigrant populations, the role of acculturation, the degree to which an individual has

assimilated into the dominant society (Miller, 2007), must be considered. Previous research has found that acculturation but not enculturation, the degree to which the individual retains his or her cultural values and beliefs, is related to Asians adopting more Western beliefs about mental disorders (Mallinckrodt, Shigeoka, & Suzuki, 2005).

The Present Study

At this time, there is a limited empirical research on stigma toward individuals with depression and virtually no research that considers the cultural composition of North America. The purpose of the present study was to examine differences in depression stigma among Asians and Europeans and the mediating mechanisms. An identification of the underlying processes contributes to the literature on cross-cultural stigma as well as provides possible targets from which effective anti-stigma interventions can be designed.

In light of the research above, we predicted that (a) Canadian Asians would show greater stigma toward an individual with depression compared with Canadian Europeans; (b) these ethnic differences in stigma toward an individual with depression would be accounted for by differences in SDO, conservative values, perceived social norms, and belief that depression brings shame to one's family; and (c) Asians with a higher degree of acculturation to Canadian society would show less stigmatization toward an individual with depression.

Method

Participants

Participants were 573 undergraduate students in Canada. Following the procedures outlined in the Schwartz Value Survey User Manual (Schwartz, 2009) for ensuring the validity of participant responses to the Schwartz's Value Survey (SVS), all participants were excluded who left 15 or more items blank, used a particular scale value greater than 34 times, had greater than 30% of the items missing in a scale with greater than five items, or had two items missing from either a three- or five-item scale. In total, 95 participants were excluded resulting in the sample of 478 participants (295 females and 182 males). The excluded participants ($M = 15.84$) had higher social desirability scores compared with the remaining participants ($M = 13.00$), $t(570) = 3.37$, $p = .001$, but did not differ on any other variables of significance to our analyses. Participants' ethnicity was self-identified as Asian (52%), European (42%), or Other (6%). The European sample ($n = 199$) consisted of 144 females and 54 males, with a mean age of 18.31 ($SD = 1.34$) years, ranging from 16 to 26 years. The Asian sample ($n = 249$) consisted of 134 females and 115 males, with a mean age of 18.95 ($SD = 2.00$) years, ranging from 16 to 41 years.

Measures

Stigma. Social stigma toward an individual with depression was assessed using two separate methods, the Depression Attribution Questionnaire-27 (DAQ-27; Kanter, Rusch, & Brondino, 2008) and a Social Distance Scale, each of which served as a dependent measure in analyses. For the DAQ-27, participants are presented with a vignette depicting an individual with depression, altered in the present study to make gender and race ambiguous by naming the individual ML (see the Appendix). Participants then rate 27 items on a 9-point Likert-type scale, including stereotypical views of individuals with depression, and both affective responses and behavioral intentions toward individuals with depression. This measure has shown good internal consistency ($\alpha = .82$; Kanter et al., 2008) and has been used in prior stigma reduction research (Rusch, Kanter, & Brondino, 2009). Internal consistency was $\alpha = .86$ for Asians and $\alpha = .89$ for Europeans in the present study.

Participants were subsequently presented with the Social Distance Scale (Norman, Windell, & Manchanda, 2010) with the individual named ML. The scale consists of 12 items assessing participants' endorsement of specific behavioral intentions toward the person introduced in the DAQ-27 vignette (e.g., "How likely is it that you would move into a home next door to ML?"). Participants respond on a 5-point scale assessing their behavior likelihood from 1 (*I certainly would not*) to 5 (*I certainly would*). Scores for each item are added to provide an index of social distance with a lower score representing a greater desired social distance. Internal consistency was $\alpha = .91$ for both Asians and Europeans in the present study.

Social Dominance Orientation Scale (SDOS). The SDOS (Pratto, Sidanius, Stallworth, & Malle, 1994) assesses the extent to which participants prefer inequality among social groups, such that their own group is superior or dominant to out-groups. The scale consists of 16 statements that either approve (e.g., "We should do what we can to equalize conditions for different groups" [reverse-scored]) or disprove (e.g., "Inferior groups should stay in their place") of equality. Participants rate their levels of positive or negative feelings toward each statement on a 7-point Likert-type scale from 1 (*very negative*) to 7 (*very positive*). Pratto et al. (1994) validated the SDOS in a sample of 1,952 college students of various ethnic backgrounds. The scale demonstrated good internal consistency ($\alpha = .91$), and showed divergent validity from measures related to conservatism (e.g., Phelan & Basow, 2007). Internal consistency was $\alpha = .88$ for Asians and $\alpha = .92$ for Europeans in the present study.

SVS. The SVS (Schwartz, 1992) was used to measure participants' endorsement of conservative values. Participants are instructed to rate the importance of 58 subordinate values on a 9-point scale from negative 1 (*opposed to my principles*) to 7 (*of supreme importance*). The subordinate values are used to calculate scores for four higher-order constructs (conservative, self-enhancement, openness to experience, and self-transcendent). The SVS has been used in many countries and various fields of research (Schwartz, 1992, 1994) and demonstrates adequate internal reliability (e.g., Bardi & Schwartz, 2003; Schmitt, Schwartz, Steyer, & Schmitt, 1993), external validity, and temporal stability (Schwartz & Bardi, 2001). Internal consistency for the conservatism subscale was $\alpha = .85$ for both Asians and Europeans in the present study.

Attitudes and beliefs. An attitude and belief scale was constructed using items from previous studies that examined attitudes and beliefs related to depression stigma and included the following six subscales: shame, danger, socially inappropriate, continuity with normal experience, personal responsibility, and change expectancy. Four questions reflecting the belief that depression brings shame to one's family (shame; for example, "A person with depression reflects negatively on his family as a whole") and three items reflecting the perception that individuals with depression are dangerous (danger; for example, "People with depression are dangerous to others") were adopted from Hsu et al. (2008); three items reflecting the belief that individuals with depression are socially inappropriate (socially inappropriate; for example, "Someone with depression is always able to engage in polite conversation" [reverse-scored]), three items reflecting the belief that depression represents continuity with normal experience (continuity; for example, "Most of us from time to time show signs of depression"), five items reflecting the belief that individuals with depression are personally responsible and weak (personal responsibility; for example, "Depression results from a failure of self-control"), and four items reflecting that change in depression status is expected (change expectancy; for example, "Most people with depression will completely recover") were adopted from Norman et al. (2010). Participants rated each item on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Internal consistency of the full scale was $\alpha = .64$ for Asians and $\alpha = .67$ for Europeans in the present study. Internal consistency of the shame scale was $\alpha = .79$ for Asians and $\alpha = .70$ for Europeans.

Perceived Norms Scale. Norman et al. (2008b) modified six items from the Social Distance Scale to reflect both injunctive norms, the perception of what others would approve of in a situation, and descriptive norms, the perception of what others would do in the situation. For example, the item “How likely is it that you would have lunch with ML?” was modified to reflect injunctive norms: “If you had lunch with ML, people who are important to you would . . . ,” with participants responding on a 7-point scale from 1 (*strongly approve*) to 7 (*strongly disapprove*). A second item was also created to reflect descriptive norms: “How likely is it that people who are important to you, would have lunch with ML?” with participants responding on a 7-point scale from 1 (*very likely*) to 7 (*very unlikely*). All 12 items are added to obtain a single PNO score with higher scores reflecting a perception of greater stigmatizing attitudes and beliefs among significant others. Internal consistency was $\alpha = .93$ for Asians and $\alpha = .94$ for Europeans in the present study.

Vancouver Index of Acculturation (VIA). The VIA (Ryder, Alden, & Paulhus, 2000) consists of two dimensions: mainstream, or level of acculturation, which represents participants’ intentions to associate with the mainstream culture, and heritage, or level of enculturation, which represents participants’ intentions to associate with their heritage culture. Each of 20 items are rated on a 9-point scale of agreement from 1 (*strongly disagree*) to 9 (*strongly agree*). The 10 items reflecting “mainstream” and the 10 items reflecting “heritage” are summed to provide an index of each, with higher scores indicating a greater level of each. Data on 728 participants of various cultures, including Asian participants, provided support for the bidirectional conception of mainstream and heritage, such that the two dimensions can vary independently (Ryder et al., 2000). Internal consistency for mainstream was $\alpha = .90$ for both Asians and Europeans, and for heritage was $\alpha = .92$ for Asians and $\alpha = .88$ for Europeans.

Social desirability. It is possible that responses to questions concerning an individual with depression may be influenced by the motivation to present an impression that is socially desirable. The Crowne-Marlowe Social Desirability Scale (CMS; Crowne and Marlowe, 1960) was used to assess this possibility. The CMS consists of 33 true/false items that assess a participant’s tendency to endorse acceptable self-descriptions that are improbable (e.g., “I’m always willing to admit it when I make a mistake”) or deny undesirable self-descriptions that are probable (e.g., “There have been times when I was quite jealous of the good fortune of others” [negatively scored]). Internal consistency was $\alpha = .69$ for Asians and $\alpha = .76$ for Europeans in the present study.

Procedure

Participants completed the measures noted above in an online study accessed through the university’s participant pool website. All participants completed a demographic information survey, including questions regarding their religious affiliation, ethnicity, gender, age, annual income, and immigrant generation status.

Results

Preliminary Analyses

Preliminary analyses revealed that scores on the DAQ-27 and Social Distance Scale did not differ significantly by gender, $t(444) = 0.135$, $p = .08$ and $t(444) = 1.01$, $p = .13$, respectively. There were no significant differences in social desirability scores between Asians and Europeans, $t(445) = 0.89$, $p = .43$. Age was not significantly correlated with scores on the DAQ-27 ($r = .02$, $p = .74$) or Social Distance Scale ($r = .06$, $p = .19$). Means and standard deviations for all variables are presented in Table 1 and correlations for all measures are presented in Table 2 separately for Asians and Europeans.

Table 1. Means and Standard Deviations for Asians and Europeans.

Variable	Asians		Europeans	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
SDS	37.30	9.21	40.26	9.40
DAQ-27	115.71	24.74	105.72	27.08
SDO	51.41	13.67	47.70	17.14
PNO	39.22	13.23	44.62	14.76
Conservatism	-1.10	2.46	-1.78	2.28
Shame	11.92	5.19	9.02	3.92
VIA				
Mainstream (acculturation)	6.61	13.86	7.73	11.60
Heritage (enculturation)	6.63	15.70	7.00	14.16

Note. Conservatism score obtained from the Schwartz's Value Survey; Shame score obtained from the Attitudes and Beliefs Scale. SDS = Social Distance Scale (lower scores represent a greater desired social distance); DAQ-27 = Depression Attribution Questionnaire-27; SDO = social dominance orientation; PNO = perceived norms; VIA = Vancouver Index of Acculturation.

Table 2. Correlations for Asians and Europeans.

Variable	1	2	3	4	5	6	7	8
1. SDS		-.51***	-.31***	.60***	-.25***	-.28***	.20**	.01
2. DAQ-27	-.63***		.38***	-.32***	.34***	.41***	-.26***	.17**
3. SDO	-.44***	.50***		-.13*	.10	.40***	-.26***	-.12
4. PNO	.72***	-.50***	-.26***		-.14*	-.11	.06	-.07
5. Conservatism	-.17*	.18*	.16*	.01		.32***	-.24***	.23***
6. Shame	-.35***	.54***	.44***	-.22**	.16*		-.27***	-.03
7. Mainstream	.17*	-.12	-.23**	.03	-.21**	-.29***		.21**
8. Heritage	-.02	.09	-.10	-.09	.04	.18*	.59***	

Note. Correlations for Asians are shown above the diagonal and correlations for Europeans are shown below the diagonal. SDS = Social Distance Scale (lower scores represent a greater desired social distance); DAQ-27 = Depression Attribution Questionnaire-27; SDO = social dominance orientation; PNO = perceived norms.

* $p < .05$ (two-tailed). ** $p < .01$ (two-tailed). *** $p < .001$ (two-tailed).

Ethnic Differences in Depression Stigma

We conducted two independent-samples *t* tests to assess for ethnicity differences in depression stigma. Asians scored significantly higher on the DAQ-27 ($M = 115.71$, $SD = 24.74$) compared with Europeans ($M = 105.72$, $SD = 27.08$), $t(445) = 4.07$, $p < .001$, indicating that Asians show greater stigma toward an individual with depression. Consistently, Asians desired greater social distance from an individual with depression ($M = 37.30$, $SD = 9.21$) than did Europeans ($M = 40.26$, $SD = 9.40$), $t(445) = 3.34$, $p = .001$. These results provided support for the first hypothesis.

We conducted multiple mediation analyses using the PROCESS module for SPSS (Hayes, 2013) to directly test our proposed model that SDO, conservative values, and PNO mediate the relationship between ethnicity and stigma toward an individual with depression (Figure 1). Separate analyses were conducted using each of the DAQ-27 and scores on the Social Distance Scale as the outcome variable. Bootstrapping, a nonparametric resampling procedure, was chosen to test mediation because it has been shown to result in increased power while maintaining

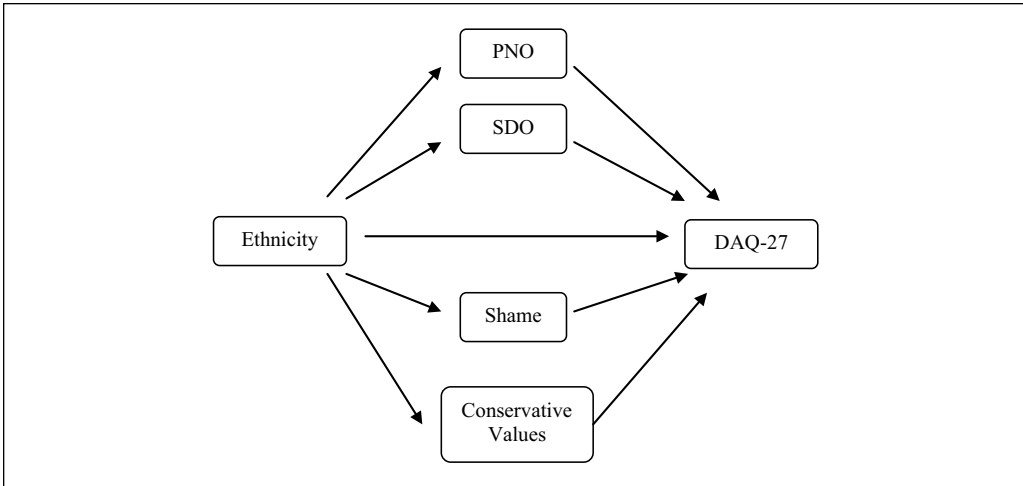


Figure 1. Mediation model of the relationship between ethnicity and depression stigma, with PNO, SDO, shame, and conservative values as mediators, and the DAQ-27 as the outcome measure.

Note. The same model was run with the Social Distance Scale as the outcome measure. PNO = perceived norms; SDO = social dominance orientation; DAQ-27 = Depression Attribution Questionnaire-27.

adequate Type 1 error rates (MacKinnon, Lockwood, & Williams, 2004). Furthermore, Preacher and Hayes (2008) evaluated the use of bootstrapping in multiple mediation analyses and recommended its use over other procedures. The significance of each of the indirect paths was evaluated by estimating the lower (lower level confidence interval [LLCI]) and upper (upper level confidence interval [ULCI]) limits of the 95% bias-corrected bootstrap intervals using 10,000 bootstrap iterations. Unstandardized estimates for the paths are provided.

Taking into account parsimony, the proposed model predicted the greatest variance in depression stigma between Asians and Europeans as measured by each outcome variable. Ethnicity was entered as the predictor variable, and shame, PNO, SDO, and conservative values were entered as mediators. Results are presented in Table 3.

Controlling for the four mediators, the direct effect of ethnicity on DAQ-27 scores was no longer significant, $b = 0.19$, $SE = 2.03$, $t(443) = 0.9$, $p = .93$, LLCI = -3.81 , ULCI = 4.19 . Furthermore, the indirect effect through shame was significantly larger than the indirect effects through both SDO (LLCI = 0.21 , ULCI = 4.75) and conservative values (LLCI = 1.13 , ULCI = -5.60). The indirect effect through PNO was significantly larger than the indirect effect through conservative values (LLCI = 0.16 , ULCI = 4.10). No other contrasts were significant.

Similarly, controlling for the four mediators, the direct effect of ethnicity on social distance scores was no longer significant, $b = -0.44$, $SE = 0.65$, $t(444) = 0.68$, $p = .50$, LLCI = -1.72 , ULCI = 0.84 . The indirect effect through PNO was significantly larger than the indirect effect through shame (LLCI = 0.39 , ULCI = 2.67), SDO (LLCI = 0.60 , ULCI = 2.76), and conservative values (LLCI = 0.75 , ULCI = 2.90). No other contrasts were significant.

To investigate the role of shame further, we examined correlations among shame and other attitudes and beliefs related to depression. Shame ($M = 10.63$, $SD = 4.87$) was significantly correlated with the belief that depression is dangerous ($M = 10.49$, $SD = 5.03$, $r = .40$, $p < .001$), that depression is not continuous with normal experience ($M = 16.11$, $SD = 3.04$, $r = -.34$, $p < .001$), that people with depression are responsible for their disorder ($M = 18.17$, $SD = 5.78$, $r = .46$, $p < .001$), and the belief that depression is not prevalent in Canada ($M = 10.90$, $SD = 2.42$, $r = -.49$, $p < .001$).

Table 3. Results of the Multiple Mediation Model for Ethnicity With Both the DAQ-27 and the Social Distance Scale Outcome Measures.

	DAQ-27				Social Distance Scale ^a			
	<i>b</i>	<i>SE</i>	LLCI	ULCI	<i>b</i>	<i>SE</i>	LLCI	ULCI
Shame	-4.25*	1.01	-6.49	-2.52	0.62*	0.24	0.19	1.15
PNO	-3.01*	0.89	-4.56	-1.45	2.11*	0.53	1.11	3.18
SDO	-1.79*	0.69	-3.31	-0.57	0.46*	0.20	0.14	0.94
Conservatism	-1.05*	0.44	-2.19	-0.38	0.33*	0.14	0.10	0.69

Note. DAQ-27 = Depression Attribution Questionnaire-27; *b* = unstandardized estimate of effect; *SE* = standard error of the unstandardized estimate; LLCI = lower level confidence interval; ULCI = upper level confidence interval; PNO = perceived norms; SDO = social dominance orientation; CI = confidence interval.

^aLower scores represent a greater desired social distance.

*Statistically significant (95% CI).

Table 4. Results of the Multiple Mediation Model for Acculturation With Both the DAQ-27 and the Social Distance Scale Outcome Measures.

	DAQ-27				Social Distance Scale ^a			
	<i>b</i>	<i>SE</i>	LLCI	ULCI	<i>b</i>	<i>SE</i>	LLCI	ULCI
SDO	-0.11*	0.04	-0.21	-0.05	0.04*	0.01	0.02	0.07
Conservatism	-0.10*	0.04	-0.19	-0.04	0.03*	0.01	0.01	0.06
Shame	-0.10*	0.04	-0.22	-0.03	0.02	0.02	-0.03	0.04

Note. DAQ-27 = Depression Attribution Questionnaire-27; *b* = unstandardized estimate of effect; *SE* = standard error of the unstandardized estimate; LLCI = lower level confidence interval; ULCI = upper level confidence interval; SDO = social dominance orientation; CI = confidence interval.

^aLower scores represent a greater desired social distance.

*Statistically significant (95% CI).

Acculturation

We regressed acculturation and enculturation onto depression stigma within our Asian sample ($n = 249$).² The model was significant, $R^2 = .04$, $F(2, 224) = 5.19$, $p = .006$, with depression stigma significantly predicted by acculturation, $B = 0.14$, $t(244) = 3.22$, $p = .001$, but not enculturation, $B = -0.03$, $t(244) = 0.68$, $p = .50$. Consistent with our third hypothesis, a higher degree of acculturation into Canadian culture predicted lower stigma toward an individual with depression. For exploratory purposes, we investigated this relation using multiple mediation analyses with acculturation as the predictor variable. Results are presented in Table 4. With the DAQ-27 as the outcome measure, the most parsimonious model included SDO, conservative values, and shame as mediators. Controlling for the three mediators, the direct effect of acculturation on DAQ-27 scores was no longer significant, $b = -0.14$, $SE = 0.10$, $t(246) = 1.31$, $p = .19$, LLCI = -0.34, ULCI = 0.07. With the Social Distance Scale as the outcome measure, the most parsimonious model included SDO and conservative values as mediators. Controlling for the two mediators, the direct effect of acculturation on social distance scores was no longer significant, $b = 0.04$, $SE = 0.04$, $t(243) = 1.04$, $p = .30$, LLCI = -0.04, ULCI = 0.13.

Discussion

The findings support our first hypothesis that Asians stigmatize individuals with depression more than do Europeans. The belief that depression brings shame to one's family, perception of social

norms, a social dominance orientation, and conservative values appear to underlie this relationship, supporting our second hypothesis. All four variables were significant mediators between ethnicity and both scores on the DAQ-27 and scores on the Social Distance Scale. Differences emerge from the relative significance of each mediator with shame and PNO showing the largest indirect effects on the relationship between ethnicity and DAQ-27 scores, and PNO having the largest indirect effect on the relationship between ethnicity and social distance scores. The DAQ-27 assesses stereotypical attitudes and beliefs toward depression, as well as both affective responses and behavioral intentions toward individuals with depression. Alternatively, the Social Distance Scale is a behavioral measure of stigma, assessing the desire to avoid contact with individuals with depression. Therefore, it appears that the belief that depression brings shame to one's family is particularly important in explaining differences in stigmatizing attitudes and beliefs between Asians and Europeans. Furthermore, the perception of greater depression stigma among significant others appears to be particularly important in explaining differences in stigmatizing behavioral intentions between Asians and Europeans.

Asians reported greater familial shame associated with the diagnosis of depression than Europeans. In collectivist cultures, group harmony and cohesion are of central importance, with individual factors being evaluated to reflect the family as a whole (Yang, 2007). As a result, behavior that is seen to fall outside of societal expectations, such as depressive behavior or emotional expression, is likely to carry shame and subsequently stigma. Consistent with this notion, we found that the belief that depression carries familial shame was significantly correlated with other attitudes and beliefs that depression reflects behavior that falls outside of societal expectations, such as the belief that depression is dangerous, that depression is not continuous with normal experience, that people with depression are responsible for their disorder, and that depression is not prevalent in Canada. As the belief that depression carries familial shame may not be directly amenable to intervention efforts, these correlates provide opportunities to reduce stigma indirectly by altering the belief that depression reflects behavior that falls outside of societal expectations.

To the best of our knowledge, this is the first study to examine the role of PNO in depression stigma among different cultures and within the context of other explanatory variables. Participants were asked both what they believed their significant others (close family and friends) would do and what behaviors their significant others would approve of in certain situations involving an individual with depression. These descriptive and injunctive norms significantly mediated the relationship between ethnicity and depression stigma. Specifically, Asians reported greater stigmatizing norms among significant others compared with Europeans which, in turn, led to greater stigma toward an individual with depression. Our results support the social identity theory in the context of stigma toward individuals with depression. The process of socialization involves interacting with others and deriving meaning from these interactions. As children become socialized, their interpretations, attitudes, and behaviors converge to the group standards or norms. These norms are internalized and, thus, the way in which an individual views the world is largely influenced by the individual's social group (Hogg & Smith, 2007).

Acculturation

Consistent with our third hypothesis, a higher degree of acculturation to Canadian society predicted less stigmatization toward an individual with depression within our Asian sample. A social dominance orientation and conservative values appear to underlie this relationship when the Social Distance Scale was used to index depression stigma, with the addition of shame when the DAQ-27 was used to index stigma. These results are in line with research at a global level that has found higher scores for Asian countries compared with Western-European countries on both conservative value measures (Schwartz, 2007) and social dominance orientation measures

(Fischer et al., 2012).³ As degree of enculturation did not predict stigma toward an individual with depression, it appears that multiculturalism, which promotes integration into Canadian society while retaining one's own cultural, may serve to reduce depression stigma among Asians.

Implications

PNO was a stronger mediator compared with both conservative values and a social dominance orientation when stigma was indexed by the DAQ-27, as well as a stronger mediator compared with shame, conservative values, and a social dominance orientation when stigma was indexed by the Social Distance Scale. This finding has important implications for the design of interventions aimed at reducing stigma toward those with depression. Previous interventions have focused largely on changing the stereotypical attitudes and beliefs associated with mental illness (Norman et al., 2008b). Evaluations suggest that although these interventions are often successful in changing these stereotyped beliefs, they are less effective in changing the behavioral intentions toward those individuals with mental disorders (Gaebel & Baumann, 2003; Paykel, Hart, & Priest, 1998; Pinfold et al., 2003). Our results show the importance of PNO in depression stigma, particularly in accounting for differences between ethnicity and behavioral intentions toward individuals with depression.

In recent years, a number of interventions have been developed that target people's perception of social norms, often by presenting models of the desired behavior or feedback regarding the discrepancy between the person's behavior and the normative behavior of his or her reference group. These interventions have been effective in bringing about behavior changes in a variety of contexts (Crandall, Eshleman, & O'Brien, 2002) and may be important for decreasing stigma toward individuals with mental disorders.

Furthermore, greater attitude change occurs when the source and recipient of the persuasive message belong to the same reference group (McGarty, Haslam, Hutchison, & Turner, 1994). Messages geared toward normalizing the acceptance of depression, delivered by an individual with characteristics that match the recipient of the message, such as ethnicity, may increase the effectiveness of anti-stigma interventions.

It is important to note that the measure of PNO in the present study reflects stigma toward an individual with depression among people "important to" the respondent. As a result, it is unknown who is reflected in each participant's norm group. Future research is required to identify norm groups that would make the most suitable targets for intervention, as well as to assess whether these strategies can be used to reduce depression stigma.

Finally, future research on stigma toward mental disorders must consider ethnic differences. The present study found differences in depression stigma between Asians and Europeans from an individual with depression. Negating the influence of ethnicity in stigma research creates only a clouded understanding of the underpinnings of stigma in the North American population.

Limitations and Future Directions

The study was limited as participants completed the study online and thus may have been subject to unique conditions beyond the researchers' control. Furthermore, as the sample was comprised of only undergraduate students, the generalizability of the current findings may be restricted. However, as noted previously, the findings of the current study were consistent with previous population-based studies and meta-analyses (e.g., Bizer et al., 2012; Fischer et al., 2012; Norman et al., 2010). In addition, the greatest risk for the onset of depression is in the late adolescent to young-adult years. As stigma is associated with less help-seeking behaviors, undergraduate students represent a population of special interest when designing anti-stigma campaigns.

Given that this study used undergraduate students, it would be important to examine whether the results are replicable in a more representative sample of the population. Studies from a variety of countries have found, for example, that older adults stigmatize more than do younger adults (Alexander & Link, 2003; Jorm & Oh, 2009; Lauber, Nordt, Falcato, & Rossler, 2004). Therefore, examining whether age influences the relationship between ethnicity and depression stigma and investigating the underlying mechanisms at various ages is warranted.

Furthermore, the DAQ-27 has not been specifically validated as a measure of depression stigma within Asian samples. However, the DAQ-27 vignette includes symptoms of depression endorsed by both Europeans and Asians, and as such, provides a definition of depression to participants prior to answering response items.

Finally, we examined depression stigma between Canadian Asians and Europeans. It is important to note that the choice of categories resulted in two rather heterogeneous groups of individuals. Future research should investigate if differences in terms of both depression stigma, as well as predictors of stigma exist between different Asian cultures.

Conclusion

This study sought to address gaps in the stigma literature by examining the relative importance of certain predictors of stigma in the context of depression. Consistent with global-level research, Canadian Asians showed greater stigma toward an individual with depression compared with Canadian Europeans. The belief that depression brings shame to one's family, perception of social norms, a social dominance orientation, and conservative values appear to underlie this relationship. Furthermore, multiculturalism approaches whereby individuals are encouraged to both integrate into Canadian culture while still retaining their own culture may serve to reduce depression stigma. These results provide guidance for the development of anti-stigma campaigns.

Appendix

Depression Attribution Questionnaire-27 (Kanter, Rusch, & Brondino, 2008) vignette adapted for the present study:

ML is 18 years old and has had severe depression for the last year. ML feels hopeless about life and no longer feels pleasure from any of the activities ML used to enjoy. Even good experiences fail to lift ML's mood. ML has trouble concentrating and feels very tired, but often wakes early in the morning without been able to get back to sleep. This has caused ML to fall behind in coursework at the university. ML lives alone in an apartment. Lately ML has been thinking that being dead would be better than the current condition.

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Notes

1. In this article, we refer to Asians as individuals of East and Southeast Asian, Pakistani, and Indian backgrounds (American Psychological Association, 2009), including both immigrants from Asian countries to North America (first generation) and North Americans of Asian descent (second, third, or fourth generation). We refer to Europeans, the comparison group, as individuals who originated from Europe or North America (Kalibatseva & Leong, 2011).
2. In our full sample ($n = 478$), we conducted a regression analysis with acculturation, social dominance orientation (SDO), conservatism, perceived norms (PNO), and shame as predictor variables and depression stigma (Depression Attribution Questionnaire-27 [DAQ-27] and Social Distance Scale) as the outcome variable. Acculturation was not a significant predictor of depression stigma as measured by either the Social Distance Scale, $B = -0.02$, $t(438) = 1.35$, $p = .18$, or the DAQ-27, $B = 0.03$, $t(437) = 0.29$, $p = .77$.
3. Alternative models were explored, including models with SDO, conservatism, and shame as predictor variables, social distance and DAQ-27 scores as outcome variables, and acculturation as the mediator variable. The model described in our results with acculturation as the predictor variable fits the data best.

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