

Honor and the Stigma of Mental Healthcare

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Abstract

Most prior research on cultures of honor has focused on interpersonal aggression. The present studies examined the novel hypothesis that honor-culture ideology enhances the stigmatization of mental health needs and inhibits the use of mental health services. Study 1 demonstrated that people who strongly endorsed honor-related beliefs and values were especially concerned that seeking help for mental health needs would indicate personal weakness and would harm their reputations. Studies 2 and 3 showed that honor states in the U.S. South and West invested less in mental healthcare resources, compared with non-honor states in the North (Study 2), and that parents living in honor states were less likely than parents in non-honor states to use mental health services on behalf of their children (Study 3). Together, these studies reveal an overlooked consequence of honor ideology for psychological well-being at the individual, social, and institutional levels.

Keywords

honor, culture, stigma, mental health

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Mental illness is associated in many cultures with a variety of negative stereotypes, including being dangerous, unpredictable, and weak. Such stereotypes and the discriminatory treatment that can accompany such stereotypes (Corrigan & Matthews, 2003) can serve as powerful motivators to deny membership in the category of “the mentally ill” (e.g., Quinn & Chaudoir, 2009) and to avoid utilizing mental health services (Corrigan, 2004). Almost one third of the adolescent participants in a recent survey reported that they were *not at all willing* to seek out mental health services, even if they felt that they needed them (Chandra & Minkovitz, 2006). Of particular concern to adolescents was the belief that seeing a professional for mental healthcare (MHC) makes peers “think you are weird or different” and that seeing a counselor indicates personal weakness. Research has likewise uncovered stigma-related barriers to services among the *parents* of adolescents with mental health needs, who often report feelings of embarrassment, concerns about labeling their child as “mentally ill,” and the fear of being seen as a bad parent, all of which can serve as deterrents to seeking help for their child (Sayal et al., 2010). Indeed, Muhlbauer (2002) reported that parents’ concerns about the stigma-by-association (or “courtesy stigma”) associated with seeking mental health services for children included self-stigma, stigma from family members, and stigma from institutions (e.g., insurance companies, doctors).

Faced with multiple sources of stigma, people with mental health needs are likely to avoid seeking help. In the present article, we suggest that such impediments to accessing

mental health services might be further understood by examining the stigma of MHC at a cultural level. Specifically, the present research investigates a socio-cultural influence on the stigmatization of MHC deriving from the beliefs and values of a culture of honor (Nisbett, 1993; Nisbett & Cohen, 1996). As we will describe, the beliefs and values of honor cultures that have been linked to aggression and violence are likely to enhance the stigmatization of mental health needs and the receipt of care for those needs.

MHC and the Culture of Honor

Honor cultures exist all around the world, including the nations of the Middle East, many societies around the Mediterranean and in Central and South America, as well as the Southern and Western regions of the United States (e.g., Nisbett & Cohen, 1996; Peristiany, 1966; Vandello, Cohen, Grandon, & Franiuk, 2009). Although every culture defines what traits and behaviors it values, cultures of honor place special emphasis on the importance of reputation as a primary feature of individual and collective identity. For men in such cultures, having honor means being (and being known as) strong, capable, and willing to defend one’s person,

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family, and property. For women in such cultures, having honor primarily means being loyal and sexually chaste, although strength and toughness may also be of some importance (see Barnes, Brown, & Tamborski, 2012). Failure to fulfill these gender-specific ideals brings shame to oneself and to one's family, which can be difficult or impossible to erase (Fischer, 1989; Peristiany, 1966; Vandello & Cohen, 2003; Wyatt-Brown, 1986).

Based largely upon the massive immigrations of the Ulster Scots, or "Scotch-Irish" (Fischer, 1989; Leyburn, 1962; Nisbett, 1993) to parts of the United States during the 17th and 18th centuries, Nisbett and colleagues (e.g., Nisbett & Cohen, 1996) have identified "honor states" as those categorized by the U.S. Census Bureau within the Southern or Western regions, with the exception of Hawaii and Alaska, which, although officially categorized as "Western," do not share in the cultural heritage of other Southern and Western states (e.g., Vandello & Cohen, 1999). Thus, along with Hawaii and Alaska, all non-Southern/non-Western states are identified by Nisbett and colleagues as non-honor states. Following this regional classification, research has demonstrated a host of differences between honor states and non-honor states in the realm of male aggression. For example, honor states exhibit significantly higher rates of argument-based homicide among Whites, but not among non-Whites, compared with non-honor states (Cohen, 1998; Nisbett & Cohen, 1996; see also Lee, Bankston, Hayes, & Thomas, 2007), a pattern that Brown, Osterman, and Barnes (2009) expanded to the realm of school violence. Lab experiments have likewise demonstrated that males from honor states exhibit different cognitive, behavioral, and physiological responses to insults compared with males from other states, including increases in cortisol and testosterone, and a higher likelihood of engaging in aggressive and dominant behaviors (Cohen, Nisbett, Bowdle, & Schwarz, 1996).

Recent studies have extended this research on interpersonal violence to violence against the self (Osterman & Brown, 2011), showing that people living in honor states in the U.S. South and West have higher rates of suicide than people living in non-honor states in the North, especially if they are White and live in small towns. These demographic qualifiers of suicide rates are generally consistent with previous research on honor and homicide, although evidence that *women* in honor states also commit suicide at increased rates was a novel finding. This similarity across genders is one of the first such demonstrations in the honor-culture literature to date (see also Barnes et al., 2012). Osterman and Brown (2011) also argued that people in honor states might be less likely to seek help for their feelings of distress. Consistent with this idea, they found that statewide levels of severe depression (which were significantly higher in honor states) were positively associated with statewide suicide rates, but *only among honor states*, and that anti-depressant prescription rates (which were higher in *non-honor* states) were negatively associated with suicide, but *only among non-honor*

states. If anti-depressant prescription rates reflect help-seeking behaviors, then this might explain the disconnect between depression rates and suicide rates among non-honor states—specifically, in places where people tend to seek help for their distress (e.g., in non-honor cultures), rates of distress should be more disconnected from rates of suicide, whereas in places where people tend to avoid seeking help (e.g., in honor cultures), distress and suicide ought to be positively associated.

Building upon these findings, we hypothesize that in addition to aggression against others or the self, the ideology of honor might manifest itself in an enhanced stigmatization of seeking help for mental health needs. After all, if the point of aggressive retaliation is to restore or assert one's reputation by a show of strength, then any act suggestive of weakness could undermine this goal. Admitting that one needs help—especially the kind of help offered by MHC professionals—ought to be devalued within a culture of honor, leading to a culturally enhanced stigma that could produce a multi-faceted barrier to accessing MHC services.

Research has also linked the stigma of seeking help for mental health needs with broad social norms regarding gender roles, particularly among men (e.g., Pleck, Sonenstein, & Ku, 1994). Such studies tend to focus almost exclusively on men's definitions of masculinity and associate their beliefs about gender-role expectations (their own or others') with difficulties in admitting their needs for assistance or discussing problems associated with emotions. Although research on masculinity beliefs is related to honor-based ideologies and their transmission, a generic approach to gender definitions and roles will tend to conflate culturally relevant constructs and will tend to measure beliefs and values at too broad a level. Thus, a more nuanced approach to measuring beliefs and values deriving from honor ideology is needed if we hope to pinpoint the *cultural* influences that might enhance the stigmatization of MHC.

A cultural perspective on gender definitions would lead us to examine the extent to which both men and women embrace the cultural ideology of honor and the extent to which this embracing of honor norms is associated with the stigma of MHC. Indeed, women might feel almost as stigmatized as men would for utilizing MHC services if they live in a culture of honor, as the values of toughness and self-reliance that the culture of honor extols for men are also of some value for women (Barnes et al., 2012). Research has also shown that honor is not just about *personal* reputations but also *collective* reputations, including the reputation of one's family (e.g., Barnes, Brown, & Osterman, 2012; Rodriguez-Mosquera, Manstead, & Fischer, 2002). Thus, women might feel reticent to seek help for mental health needs in part to reduce the indirect impact of courtesy stigmas experienced by those associated with them, such as family members, spouses, and friends, and perhaps also because their loved ones might explicitly dissuade them from seeking help to avoid a courtesy stigma (Barney, Griffiths, Jorm, & Christensen, 2006). Furthermore,

although “purity concerns” for women in the honor literature relate almost exclusively to *sexual* purity, we think it is also plausible that mental health needs might be subtly linked to a form of impurity, leading to a perception of mental health needs as representing a type of “psychological infection” (Turner, 2000). This might create a purity-related barrier to acknowledging or seeking help for mental health needs among women in an honor culture. Women’s purity concerns, again, can affect their whole family’s honor. The sources of pressure for women to avoid psychological treatment might thus be somewhat different from those for men, though just as serious. Even apart from these individual-level concerns, however, if the stigma of MHC leads to a reduction in social investments in mental health services, then this investment deficit will have implications for both men and women. A person cannot utilize services that do not exist, no matter how motivated they might be to do so.

In the present studies, we extend prior research on the culture of honor to the unique domain of MHC stigmatization, examining honor ideology at both the individual and regional levels. Study 1 uses an individual level of analysis, connecting the endorsement of honor-related beliefs and values to attitudes toward seeking MHC. Study 2 examines deficits in MHC services as a function of regional differences in honor-culture status. Finally, Study 3 examines parents’ utilization of available mental health services on behalf of their children, again as a function of regional differences in honor culture.

Study 1

Research on honor dynamics in the United States has traditionally compared respondents from honor regions and non-honor regions, which we do as well in Studies 2 and 3 (e.g., Cohen, 1998; Cohen et al., 1996). However, this method overlooks the important individual variability within cultures. Not all members of a culture agree with its ideology, creating intra-cultural variability (e.g., Leung & Cohen, 2011).

Study 1 addresses this intra-cultural variability by examining people’s endorsement of honor-related beliefs and values as a predictor of concerns about seeking MHC services. The measure of honor ideology endorsement used in this study is a measure recently constructed by Barnes et al. (2012) called the Honor Ideology for Manhood Scale (or HIM). This measure focuses on the masculine dimension of honor ideology, in part because this dimension is the most well-studied aspect of honor beliefs and values and in part because beliefs about “real manhood” seem to be among the most consistent features of honor cultures around the world, whereas other dimensions seem to be more variable across honor cultures (e.g., specific beliefs about femininity).

The validity and predictive utility of the HIM has been demonstrated in a diverse array of studies recently, which have shown that scores on this scale are associated with

responses to terrorist attacks (Barnes et al., 2012), symptoms of depression (Osterman & Brown, 2011), excessive risk-taking (Barnes et al., 2012), and even an implicit index of honor endorsement (Imura, Burkley, & Brown, 2014). The latter three findings come from studies that included both men and women, and the authors report that no significant gender differences in associations were obtained across this diverse array of outcomes, thus supporting the validity of the HIM as a measure of honor endorsement for both men and women. Because this scale is ideological rather than self-descriptive, both men and women can endorse (or reject) the items of the HIM, and their endorsement would reflect their embracing of one of the central features of the ideology of honor regardless of their gender. Thus, scores on the HIM might predict the stigma of MHC as effectively among women as among men, although the precise nature of their stigma-related concerns could certainly differ.

In the current study, we examined the relationship between honor ideology and two dimensions of the stigmatization of MHC that have been identified in previous studies (Corrigan, 2004): *personal concerns* (i.e., an internalized sense of self-criticism for having needed and sought help for mental health needs) and *social concerns* (i.e., fears about criticisms or devaluation by others if they should discover one’s use of MHC services). We also included measures of impression management and self-esteem to enhance our confidence that any association we might find between honor ideology endorsement and personal or social concerns was not simply the result of these potential confounds.

Method

Participants. Seven hundred fifty-six respondents (258 males, 498 females) who identified themselves as White (74.5%), Black (4.9%), Native American (5.0%), Hawaiian/Pacific Islander/Asian (8.9%), Hispanic (4.5%), or Other (2.1%) participated. However, for the sake of consistency with Study 3, which only included White, non-Hispanic participants (due to the regional proxy for culture-of-honor [CH] status, as opposed to a direct measure of individual endorsement of honor ideology), we only included the data from White, non-Hispanic respondents in this study. This selection left 563 students (185 male, 378 female) for our analyses (we should note that the results remain largely unchanged when we include data from all participants). Participants were all students at a large, Midwestern university, who participated in exchange for credit in an introductory psychology course. Participants’ mean age was 18.97 years ($SD = 1.46$).

Materials

Honor Ideology for Manhood (HIM). The 16-item HIM scale (Barnes et al., 2012; $\alpha = .92$) captures the extent to which individuals endorse the masculine dimension of honor ideology. Using a nine-point scale (1 = *strongly disagree*, 9 = *strongly agree*), respondents indicate the extent to which they

agree with statements derived from the honor literature, such as “A real man doesn’t let other people push him around,” and “A man has the right to act with physical aggression toward another man who calls him a coward.”

Personal concerns. Participants completed Vogel, Wade, and Haake’s (2006) 10-item Self-Stigma of Seeking Help (SSOSH; $\alpha = .87$), which measures the extent to which individuals have negative attitudes toward help-seeking for mental health needs, specifically because seeing a therapist or counselor would be self-threatening. Using a five-point scale (1 = *strongly disagree*, 5 = *strongly agree*), participants were asked to rate their level of agreement with items such as “I would feel inadequate if I went to a therapist for psychological help” and “It would make me feel inferior to ask a therapist for help.” The SSOSH correlates with other stigma measures and differentiates individuals who actually sought psychological services from those who did not 2 months after they completed the scale (Vogel et al., 2006). Hereafter, we will simply refer to scores on the SSOSH as an index of *personal concerns*.

Social concerns. Participants also completed Komiya, Good, and Sherrod’s (2000) five-item Stigma Scale for Receiving Psychological Help (SSRPH; $\alpha = .81$) and the six-item stigma subscale of Britt et al.’s (2008) Perceived Stigma and Barriers to Care for Psychological Problems (PSBCPP; $\alpha = .88$) as measures of *social concerns*. The SSRPH assesses the extent to which individuals perceive psychological help-seeking as resulting in public shame or disapproval. Each response ranges from 0 (*strongly disagree*) to 3 (*strongly agree*), with greater scores indicating greater concerns about public devaluation. Sample items are “People tend to like less those who are receiving professional psychological help,” and “It is advisable for a person to hide from other people that he/she has seen a psychologist.” The perceived stigma subscale of Britt et al.’s (2008) PSBCPP was designed for use with a college student sample and has shown good internal reliability in previous research. On this measure, respondents are asked to indicate the extent to which six potential concerns might affect their decision to seek treatment for a psychological problem. Example items are “It would be too embarrassing,” “It would harm my reputation,” and “I would be seen as weak.” Because the correlation between scores on these two measures (the SSRPH and the PSBCPP) was quite high ($r = .61$), we standardized scores on the two scales and used their average as an index of *social concerns* related to help-seeking for mental health needs.

As covariates, we included the 10-item Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965) on which participants rated their level of agreement with global statements of self-worth, such as “On the whole, I am satisfied with myself,” using response scales anchored with “*strongly disagree*” (= 1) and “*strongly agree*” (= 4). We also included the 20-item impression management (IM) subscale of Paulhus’s (1991)

Table 1. Zero-Order Correlations Among and Descriptive Statistics for All Variables Used in Study 1.

	1	2	3	4	5	M_F	SD_F
1. HIM	—	.17**	.23**	.03	-.20**	4.59	1.56
2. Personal concerns	.19**	—	.67**	-.26**	-.10	2.54	0.84
3. Social concerns	.25**	.71**	—	-.24**	-.15**	-0.04	0.89
4. Self-esteem	-.01	-.10	-.15*	—	.18**	31.78	6.00
5. Impression management	-.24**	-.21**	-.21**	.33**	—	3.03	0.84
M_M	5.67	2.66	0.07	32.98	2.97		
SD_M	1.53	0.78	0.90	5.36	0.78		

Note. Intercorrelations for females ($n = 378$) are presented above the diagonal, and intercorrelations for males ($n = 185$) are presented below the diagonal. Means and standard deviations for males are presented in the vertical columns, and means and standard deviations for females are presented in the horizontal rows. HIM = Honor Ideology for Manhood Scale; Personal concerns = Self-Stigma of Seeking Help scale; Social concerns = Stigma Scale for Receiving Psychological Help and Perceived Stigma and Barriers to Care for Psychological Problems; Self-esteem = Rosenberg Self-Esteem Scale; Impression management = Paulhus’s Balanced Inventory of Socially Desirable Responding, impression management subscale.

* $p \leq .05$. ** $p \leq .01$.

Balanced Inventory of Socially Desirable Responding to control for response bias. Both the RSE and the IM demonstrated good internal consistencies in the present study ($\alpha = .89$ and $.79$, respectively).

Results and Discussion

Bivariate correlations between honor ideology, personal concerns, social concerns, self-esteem, and impression management were examined separately for men and women. These correlations are shown in Table 1. With respect to our focal analyses regarding honor ideology and concerns about MHC, there were no significant differences between men and women (nor were there any interactions between gender and honor ideology endorsement). Thus, we combined responses from men and women in our regression analyses but included gender as a covariate.

When we regressed personal concerns on the HIM, gender, the RSE, and IM, we found that honor ideology was a positive and significant predictor of personal concerns, as shown in Table 2. As hypothesized, people who strongly endorsed honor ideology on the HIM indicated greater personal concerns about seeking help for mental health needs compared with people who did not as strongly endorse honor ideology. A similar result occurred when we regressed social concerns on honor ideology and all covariates: Once again, people with high scores on the HIM indicated greater social concerns about seeking help for mental health needs compared with people with low scores on the HIM. Thus, with respect to people’s fears that seeking help for mental health needs indicates personal inadequacy or failure, and with respect to people’s worry that others would see them as weak

Table 2. Multiple Regression Analyses Predicting Personal and Social Concerns Associated With Mental Healthcare (Study 1).

	Personal concerns		Social concerns	
	β	t	β	t
HIM scores	.19	3.99**	.23	5.38**
Gender	.03	0.75	.001	0.03
Self-esteem	-.20	-4.79**	-.20	-4.85**
Impression management	-.05	-1.24	-.08	-1.91

Note. HIM = Honor Ideology for Manhood Scale.

** $p \leq .01$.

or would otherwise devalue them, men and women with high scores on the HIM indicated more negative attitudes about seeking MHC.

These results demonstrate a direct link between the endorsement of one of the central dimensions of honor ideology and concerns about the utilization of MHC services. Although a parallel link has been made in prior research with men (e.g., Vogel, Heimerdinger-Edwards, Hammer, & Hubbard, 2011), this is the first study of which we are aware to show that *women's* endorsement of honor-based norms can likewise predict their attitudes toward seeking help. This unique finding might be considered somewhat strange from a strictly gender-role perspective, but when viewed through the lens of culture and cultural ideologies related to honor, this pattern among women is not strange at all. To the extent that women embrace the tenets of one of the core dimensions of honor culture—the meaning of “real manhood”—they will also tend to exhibit the same stigma-based concerns about mental health needs and MHC that men do who endorse the ideology of the honor syndrome.

Study 2

If honor-related beliefs and values exacerbate the stigmatization of mental health needs and MHC among individuals, then we might expect to find that *regional* differences in honor-culture status are associated with regional differences in the availability of mental health resources. Study 2 tested this possibility by examining statewide levels of mental health personnel (specifically, licensed psychiatrists and psychologists), non-federal MHC organizations, and state mental health authority expenditures. We also tested the possibility that the predicted lack of investment in mental health resources might simply reflect a broader deficit in overall healthcare in honor-oriented regions of the United States, rather than a deficit that is particular to the domain of mental health. Such a broader help-seeking deficit seems quite plausible, in light of the emphasis in honor-culture ideology on personal strength and toughness, and it is worth knowing whether the predicted deficits in *mental* healthcare services might be greater than what could be expected from a more general deficit in healthcare resources.

Method

Culture of honor. For state CH status, we coded states using Cohen's (1998) dichotomous designation, which categorizes Western and Southern states (census regions 5-9) as CH states, with the exception of Hawaii and Alaska, which, along with all remaining states, are coded as non-CH states.

Mental health resources. Data related to MHC resources were obtained primarily from reports provided by the Substance Abuse and Mental Health Services Administration (SAMHSA), a division of the U.S. Department of Health and Human Services, and from Mark, Shern, Bagalman, and Cao (2007). The SAMHSA reports (Manderscheid & Berry, 2006; SAMHSA, 2010), in turn, were based on data gathered from a number of federal and non-federal sources, including the American Medical Association and the American Psychological Association (for statewide rates of licensed, clinically trained mental health practitioners), the National Association of State Mental Health Program Directors (for state mental health expenditures; see http://www.nri-inc.org/projects/Profiles/Prior_RE.cfm#2006), and SAMHSA's own surveys of state mental health services and needs (e.g., SAMHSA's National Survey on Drug Use and Health). The data spanned the years 2000 to 2006, and for practitioner data, we were able to aggregate statewide levels across multiple years of available data to improve reliability.

Practitioner data reflected the number of clinically active psychiatrists per 100,000 state residents (for the years 2004 and 2006) and the number of licensed, clinically trained psychologists per 100,000 state residents (for the years 2000 and 2006). State mental health expenditures per capita were based on money allocated in 2006 to State Mental Health Authority offices. We also calculated the percentage of the total state budget that these State Mental Health Authority dollars represented, using data from the 2006 state budget report of the National Association of State Budget Officers (<http://www.nasbo.org/publications-data/state-expenditure-report/archives>). Finally, the number of non-federal mental health organizations per million state residents was from the year 2002, the most recent estimate available.

General healthcare resources. To examine the possibility that the predicted deficit in MHC resources among honor states might reflect a broader deficit in overall healthcare or help-seeking, we also gathered statewide data on the number of primary care physicians per capita (in 2006) from the American Medical Association's (2006) Physician Masterfile, and the number of non-psychiatric community hospitals per capita (in 2006) from the U.S. Census Bureau.

Control variables. We included a number of control variables in our analyses, consistent with previous studies on the culture of honor and regional differences in the United States. We obtained poverty rates, unemployment rates, and median

Table 3. Descriptive Statistics for and Correlations Among Primary Variables in Study 2.

	1	2	3	4	5	6	7	8
1. Culture of honor	—							
2. MHC practitioners	-.40**	—						
3. State MHC expenditures	-.44**	.48**	—					
4. MHC organizations	-.45**	.14	.43**	—				
5. Economic deprivation	.39**	-.42**	-.24**	-.27	—			
6. Collectivism	.20	-.02	-.06	-.38**	.09	—		
7. Religion	.35**	-.57**	-.56**	-.36**	.52**	.31*	—	
8. Rurality	.01	-.44**	.11	.31*	.27	-.27	.23	—
<i>M</i>	0.54	0.00	105.65	4.10	0.00	50.08	41.06	0.28
<i>SD</i>	0.50	0.91	62.27	0.98	0.82	11.34	8.81	0.15

Note. "Culture of honor" is the state culture of honor status; honor states are coded as 1 and non-honor states are coded as 0; "MHC practitioners" is the number of clinically active psychiatrists per 100,000 state residents (averaged for the years 2004 and 2006) and the number of clinically trained (PhD level) psychologists per 100,000 state residents (averaged for the years 2000 and 2006); "State MHC expenditures" are state mental health expenditures per capita from state budgets for the year 2006; "MHC organizations" is the number of non-federal mental health organizations per million state residents from the year 2002 (square-root transformed); "Economic deprivation" includes poverty rates, unemployment rates, and median state income (2004); "Collectivism" is Vandello and Cohen's (1999) statewide collectivism index; "Religion" is the percentage of adults in 2008 who reported attending religious services (church, synagogue, or mosque) "at least once a week" or "almost every week" (Gallup, 2010); "Rurality" is the proportion of the state population living in rural, non-metropolitan areas in 2000. MHC = mental healthcare.

* $p \leq .05$. ** $p \leq .01$.

state income for the year 2004 from the U.S. Census Bureau and the U.S. Bureau of Labor Statistics. As an index of statewide economic deprivation, we standardized poverty, unemployment rates, and median income (reverse coded) and computed a mean of the three variables for each state ($\alpha = .75$). If poorer states spend less money on mental health services, which seems like a reasonable possibility, then controlling for this economic deprivation index in our analyses is important for distinguishing a cultural from an economic influence on regional differences.

In addition to economic deprivation, we obtained data on statewide collectivism levels using Vandello and Cohen's (1999) statewide collectivism index, as collectivism might be confounded with regional differences in the tendency to seek mental health services outside the family unit. Similarly, we obtained a measure of religiosity for each state by using the percentage of adults in 2008 who reported attending religious services (church, synagogue, or mosque) at least once a week or almost every week (Gallup, 2010). If religious beliefs and practices diminish the felt (or acknowledged) need for mental health services or the normative value placed on such services, then religiosity could be an influential source of variance in regional differences in MHC resources. Because states with large numbers of people living in metropolitan areas might be better able to support expensive mental health services, we controlled for this potential geographical influence by obtaining estimates of rurality (specifically, the proportion of the state population living in rural, non-metropolitan areas in the year 2000) from the U.S. Census Bureau.

Results

Table 3 displays correlations among and descriptive statistics for all of our predictors and our mental health resource

variables. As predicted, zero-order associations were observed between state honor status and all three of our MHC resource indices, but the latter were also frequently associated with other statewide covariates. Thus, we examined whether state honor status remained significantly associated with each mental health investment index after controlling for all statewide covariates. Because of a strong positive skew in the number of mental health organizations, we performed a square-root transformation on this variable prior to analysis to reduce the influence of extreme data points.

As shown in Table 4, state CH status remained significantly associated with social investments in MHC resources, even after controlling for other statewide variables. Table 5 displays covariate-adjusted means across all mental health indices for honor states and non-honor states. As shown in Table 5, non-honor states consistently invested more in mental health services than did honor states, with meaningful effect sizes for licensed mental health practitioners ($d = .67$), state expenditures ($d = .84$), and treatment organizations ($d = .76$).

These results are consistent with our hypothesis of a lack of investment in MHC in honor states deriving from a greater stigmatization of mental health needs, but perhaps this pattern simply reflects a broader lack of investment in healthcare in honor states that is not at all unique to the domain of mental health. We tested this possibility by first examining general healthcare resources that were not specific to the domain of mental health (per-capita levels of primary care physicians, and non-psychiatric hospitals—each standardized and averaged for every state) as a function of state CH status and the statewide control variables described already. This analysis revealed a significant deficit in primary care doctors among honor states (covariate-adjusted $M = 76.9$ per 100,000 residents) compared with non-honor states (covariate-adjusted $M = 84.7$ per 100,000 residents), $F(1, 44) = 4.60, p < .04$. We

Table 4. Multiple Regression Analyses Predicting MHC Resources in Study 2.

	MHC practitioners		State MHC expenditures		MHC organizations	
	β	<i>t</i>	β	<i>t</i>	β	<i>t</i>
Culture of honor	-.25	-2.06*	-.31	-2.59*	-.30	-2.34*
Economic deprivation	-.03	-0.23	.11	0.87	-.11	-0.77
Rurality	-.30	-2.49*	.33	2.73**	.37	2.82**
Religion	-.42	-3.00**	-.68	-5.01**	-.25	-1.67
Collectivism	.18	1.48	.30	2.26*	-.13	-1.02

Note. MHC = mental healthcare.

* $p \leq .05$. ** $p \leq .01$.

Table 5. Covariate-Adjusted Means for All MHC Resources Among Honor States and Non-Honor States in Study 2.

	MHC practitioners		State MHC expenditures		MHC organizations	
	CH	Non-CH	CH	Non-CH	CH	Non-CH
<i>M</i>	42.93	55.96	US\$88.15	US\$126.19	3.83	4.41
<i>MSE</i>	336.69		2,128.62		0.63	
<i>d</i>	.67		.84		.76	

Note. "MHC practitioners" is the number of licensed psychologists and psychiatrists per 100,000 state residents; "State MHC expenditures" are simple per-capita rates; "MHC organizations" are per million state residents and are square-root transformed to reduce positive skew. MHC = mental healthcare; CH = culture-of-honor.

observed a similar but non-significant trend for the number of non-psychiatric hospitals per capita, which was slightly lower in honor states (covariate-adjusted $M = 0.22$ per 100,000 residents) than in non-honor states (covariate-adjusted $M = 0.26$ per 100,000 residents), $F(1, 44) = 1.43, p = .24$. Thus, the deficit in MHC resources among honor states was partially replicated outside the realm of MHC.

Given this broader deficit, in a final set of analyses, we analyzed the ratio of mental health practitioners per capita (in 2006) to primary care doctors per capita (also in 2006), the ratio of mental health organizations per capita (2004) to non-mental health hospitals per capita (in 2004), and the percentage of each state's total budget allocated specifically to the state mental health authority (in 2006), all as a function of state CH status. Consistent with the MHC stigma hypothesis, analyses revealed that honor states had a lower ratio of mental health to primary care practitioners per capita ($M = 0.52$) compared with non-honor states ($M = 0.64$), $F(1, 48) = 5.35, p < .03$; a lower ratio of mental health organizations to non-mental health hospitals ($M_s = 0.80$ and 1.10 , respectively), $F(1, 48) = 3.31, p = .075$; and a lower percentage of their overall state budgets devoted to MHC services ($M_s = 1.71\%$

and 2.54% , respectively), $F(1, 48) = 8.24, p < .01$. Although the ratio of mental health organizations to non-mental health hospitals was not significantly lower in honor states than non-honor states, this particular comparison is extremely conservative, insofar as many of the mental health organizations were themselves connected to community hospitals, so there is a link between these two variables that makes them somewhat problematic to contrast with one another.

Discussion

The results of Study 2 show that the stigma of MHC that was connected in Study 1 to respondents' honor ideology endorsement appears to translate to regional deficits in MHC resources. Although these analyses show that honor states have fewer mental health resources compared with non-honor states, it is at least possible that this pattern occurs not because of the stigmatization of MHC but because of some other regional difference unrelated to honor-culture beliefs and values. We attempted to capture several such potential confounds with our control variables, and indeed all but our economic covariate appeared to have an association with at least one type of mental health resource. Furthermore, Study 2 showed that the predicted deficit in MHC resources found in honor states was not merely due to a broader, more general lack of investment in healthcare, although some evidence of such a more general lack of healthcare resources was found.

Another potential confound concerns the need for mental health services. Perhaps people living in honor states simply have less need of such services because they are mentally healthier. This is a logical possibility, but other evidence makes this interpretation seem implausible. For instance, as noted already, studies by Osterman and Brown (2011) showed that not only were suicide rates significantly higher in honor states but so were rates of serious depression. Osterman and Brown's findings thus undermine this alternative interpretation of the lack of MHC resources in honor states. We return to this alternative interpretation in the next study as well.

Study 3

In Study 3, we turn to an examination of the utilization of MHC services—specifically, parents' reported use of such services for their children with emotional and/or behavioral problems. If honor cultures do uniquely stigmatize mental health needs and mental health services, then parents in honor states should be reticent to use such services for the needs of their children, compared with parents from non-honor states. Of course, parents in honor states might likewise fail to use healthcare services more generally, or to acknowledge that their children have any mental health needs at all, in which case any failure to use mental health services could be explained by strategic ignorance or self-protective denial. Furthermore, if the honor-related stigma is

unique to (or especially strongly associated with) MHC, honor and non-honor states should not show as large a difference in terms of the utilization of *physical* health resources. These are possibilities we tested in Study 3 by comparing honor states with non-honor states in the odds of parental acknowledgment of the mental health needs of children and the likelihood of parental usage of MHC versus physical healthcare (PHC) services on behalf of their children.

Given the dearth of mental health resources in honor states (see Study 2), parents in these states might be less likely to use MHC for their children simply because services are more difficult to access, rather than because of any special reticence deriving from an honor-based stigma. If so, then the resource deficit we found in Study 2 might be an important reason for any lower rates of utilization that we might observe in the present study. Using the three mental health resource measures examined in Study 2 (mental health practitioners, state expenditures, and treatment organizations), we investigated this possibility via a series of analyses in which these resources served as potential mediators of the association between state honor status and reported service utilization. Thus, these mediation analyses tested whether parents in honor states underutilized even what limited resources were available to them, relative to parents in non-honor states. These analyses further allowed us to pinpoint which, if any, of these resources might pose the most immediate potential for ameliorating any underutilization that we might observe among parents living in honor states.

Our outcome variables (and covariates) in Study 3 were all individual behaviors, whereas the culture of honor was defined at the state level. Thus, we used hierarchical generalized linear modeling (HGLM) to examine their association across these two levels of analysis. Because previous studies on regional differences in honor-related behaviors have typically found such differences only among White respondents (e.g., Barnes et al., 2012; Nisbett & Cohen, 1996), we limited our analyses in Study 3 to this demographic group as well.

Method

Parental utilization of mental health services on behalf of their children was obtained from survey results from the National Health Interview Survey (National Survey of Children's Health, 2007). This large-scale, face-to-face interview, conducted under the auspices of the Centers for Disease Control and Prevention (CDC), uses a national probability sample with state-level stratification and includes data from 91,642 randomly selected children (with proxy responses from a knowledgeable adult family member for these children; hereafter, we shall refer to this adult simply as a "parent"). The present data were obtained from the CDC for the year 2007 (the year closest to the timeframe associated with our data on the availability of mental health resources). Parents were asked as part of this survey whether the selected

child (aged 2-17) had special healthcare needs resulting from ongoing mental health problems. Parents' answer to this question (1 = *yes*, 0 = *no*) formed the variable that we labeled *need acknowledgment*. In addition, parents were asked whether a child who had an acknowledged need for MHC or counseling had *actually received* such care during the last 12 months. Their answers (1 = *yes*, 0 = *no*) formed the variable that we labeled *MHC utilization*. The survey question regarding the number of times a child saw a healthcare provider for preventative medical care, such as a check-up, during the last 12 months served as the measure we labeled *PHC utilization*.

In addition to these measures of need acknowledgment and utilization, we also classified states according to the same procedure used in Study 2, and we used individual-level covariates that were conceptually similar to those described in Study 2 when possible (e.g., family-level poverty rather than statewide economic deprivation, frequency of respondents' religious service attendance rather than state-average service attendance) as well as several other unique covariates described below.

In HGLM, two or more levels of analysis are addressed simultaneously in a hierarchically nested data structure. In the current analyses, we nested the individual-level healthcare variables within states and performed three separate analyses for each outcome variable. For all analyses, at the lower of the two levels, we examined the association of our individual-level covariates and the respective outcome variable, with an eye toward replicating and extending the control variables used in Study 2. Covariates included the gender of the child (0 = *male*, 1 = *female*), whether the child had active insurance coverage (0 = *not insured*, 1 = *insured*), the poverty level of the child's household (1 = *at or below 100% of the poverty level*, 8 = *above 400% of the poverty level*), how often the child attended a religious service (0 = *never*, 4 = *daily*), and the age of the child (in years). We had hoped to include a control variable commensurate with the statewide rurality variable used in Study 2, but too many of our participants were missing data on the closest approximation of individual rurality to use this variable in our analyses.¹ At the higher of the two levels of analysis, we included the state-level variable of CH status, using the same classification procedure used in Study 2. For ease of interpretation, poverty, religion, and age were mean-centered for each state.

Results

Mental health (MH) need acknowledgment. The analysis included 60,838 respondents who answered the MH need acknowledgment question and other questions relevant to the covariates. Because this outcome variable was binary, we specified the distribution of the outcome variable as the Bernoulli distribution. This applies the logit link function, making the analysis a multi-level logistic regression. When the log-odds of acknowledging the child's mental health needs

were expressed as $\ln[p_{ij}/(1 - p_{ij})] = \eta_{ij}$, our individual-level (Level 1) model was,

$$\begin{aligned} \eta_{ij} = & \beta_{0j} + \beta_{1j} \times (\text{GENDER}_{ij}) + \\ & \beta_{2j} \times (\text{INSURANCE}_{ij}) + \beta_{3j} \times (\text{RELIGION}_{ij}) + \\ & \beta_{4j} \times (\text{POVERTY}_{ij}) + \beta_{5j} \times (\text{AGE}_{ij}). \end{aligned} \quad (1)$$

In examining the state-level (Level 2) effects, HGLM computes intercepts and slopes for each state. The intercept for state j was expressed as,

$$\beta_{0j} = \gamma_{00} + \gamma_{01} \times (\text{HONOR}_j) + u_{0j}. \quad (2)$$

Because we assumed that states' CH status would not interact with any of the individual-level covariates to predict need acknowledgment, we let these slopes be freely estimated. The model when the individual and state levels were combined was expressed as,

$$\begin{aligned} \eta_{ij} = & \gamma_{00} + \gamma_{01} \times \text{HONOR}_j + \gamma_{10} \times \text{GENDER}_{ij} + \\ & \gamma_{20} \times \text{INSURANCE}_{ij} + \gamma_{30} \times \text{RELIGION}_{ij} + \\ & \gamma_{40} \times \text{POVERTY}_{ij} + \gamma_{50} \times \text{AGE}_{ij} + u_{0j} + u_{1j} \times \\ & \text{GENDER}_{ij} + u_{2j} \times \text{INSURANCE}_{ij} + \\ & u_{3j} \times \text{RELIGION}_{ij} + u_{4j} \times \text{POVERTY}_{ij} + \\ & u_{5j} \times \text{AGE}_{ij}. \end{aligned} \quad (3)$$

The intercept γ_{00} indicated the predicted log-odds of MH need acknowledgment for a child who is male, without insurance, with state-average religious service attendance, state-average poverty level, and state-average age. γ_{01} is the main effect of CH status, indicating the difference in the mean log-odds of need acknowledgment between honor and non-honor states. The coefficients γ_{10} to γ_{50} express the unique contribution of the covariates to the individuals' log-odds of need acknowledgment, while controlling for other covariates. The coefficients u_{0j} to u_{5j} are errors (i.e., random effects). See Table 5 for the summary of the results. All individual-level covariates predicted the individuals' log-odds of need acknowledgment at significant levels. At the state level, however, CH was not a significant predictor, $\gamma_{01} = .03$, $t(48) = 0.68$, $p = .50$. Thus, the acknowledgment of a need for counseling or other form of treatment appears to be present among parents living in honor states at least as much as it is among parents living in non-honor states.

MHC utilization. The same model was examined with MHC utilization as the outcome variable, including responses only from those caregivers who answered that the child did have a mental health need ($N = 4,103$). At the individual level, only insurance and age were significant predictors. At the state level, respondents in honor states showed significantly lower

log-odds of utilization compared with respondents in non-honor states, $\gamma_{01} = -0.22$, $t(48) = -2.64$, $p = .01$. The odds of MHC utilization in honor states were 20% lower than the odds of MHC utilization in non-honor states. Thus, as predicted, children with mental health needs were less likely to receive counseling or treatment for their needs if they lived in honor states (see Table 6).

The results of Study 2 showed that MHC resources were less available in honor states, which we have argued is a reflection of the lack of value accorded to MHC in honor cultures. Is reduced access to resources sufficient to explain the levels of MHC utilization in the present study? To answer this question, we conducted a series of mediation analyses in which the MHC resources examined in Study 2 (mental health practitioners, state expenditures, and treatment organizations) were tested as potential mediators of the association between state CH status and utilization of care. Across all three mediation models, *none* of the three resources was a significant predictor of utilization, although state CH status remained a significant predictor in two of these models (it remained marginally significant in the model with practitioners, $p = .105$, which was itself a marginally significant predictor of utilization, $p = .08$; without CH status in the model, practitioners was, in fact, a significant predictor of utilization, $\gamma_{01} = .005$, $t(48) = 2.60$, $p = .01$). Thus, simple lack of access is not fully sufficient to account for regional differences in utilization, although having access to care is, of course, a necessary requirement for being able to utilize care.

PHC utilization. We next examined PHC utilization as the outcome variable, including only respondents from the previous analysis who indicated that their child had a MH need. Because PHC utilization was recorded continuously rather than dichotomously, we no longer applied the logit link function. Due to the positive skew (3.29) of the outcome variable, we performed a natural log transformation to reduce the skew to a more acceptable level (0.95). At the individual level, all variables except for religion were significant predictors. At the state level, culture of honor was not a significant predictor of general healthcare utilization, $\gamma_{01} = -0.01$, $t(48) = -0.27$, $p = .79$.² Thus, although respondents in honor states who acknowledged their child's MH needs were less likely to utilize MHC resources, the same respondents utilized PHC resources to the same degree as did their counterparts in non-honor states. This supports our hypothesis that the stigma applied to MHC services in honor states is not simply a special case of a larger avoidance of seeking help for general health needs.

Discussion

Study 3 extended the MH-related personal and social concerns expressed by people with strong honor values to the realm of actual behavior. This study supports the results of Study 1 by showing that children in honor states were less likely than their counterparts in non-honor states to have

Table 6. HGLM Results for Study 3.

Effects	Need acknowledgment		MHC utilization		PHC utilization
	Coefficient	Odds ratio	Coefficient	Odds ratio	Coefficient
Individual-level variables					
Gender	-0.46**	0.63 (.39)	0.03	1.03 (.51)	0.04*
Insurance	0.55**	1.73 (.63)	0.59**	1.81 (.64)	0.17**
Religion	-0.16**	0.85	0.02	1.02	0.01
Poverty	-0.18**	0.84	0.02	1.03	-0.02**
Age	0.09**	1.09	0.08**	1.09	-0.02**
State-level variables					
Intercept	-3.11**	0.04	0.35*	1.42	0.84**
CH status	0.03	1.03 (.51)	-0.22**	0.80 (.44)	-0.01

Note. Gender is coded as 0 = male and 1 = female. Insurance is coded as 0 = not insured and 1 = insured. State honor status is coded as 0 = non-honor states, 1 = honor states. The probabilities are presented in parentheses for dichotomous variables. Because PHC utilization was a continuous rather than a dichotomous variable, only regression coefficients are presented. HGLM = hierarchical generalized linear modeling; MHC = mental healthcare; PHC = physical healthcare; CH = culture-of-honor.

* $p \leq .05$. ** $p \leq .01$.

received MHC services in the previous year. This deficit is particularly noteworthy because of the fact that their caregivers acknowledged that they had a need for such services. Furthermore, this underutilization in honor states was independent of a host of important, individual-level control variables, including religiosity, poverty, and insurance coverage. Consistent with the results of Study 1, the regional utilization difference was also independent of gender, which itself was not a significant predictor of utilization.

Contrary to expectation, we found a non-significant regional difference in need acknowledgment. We were surprised by this regional equivalence, which contrasts with previous evidence of a significantly higher rate of serious depression among people living in honor states (Osterman & Brown, 2011), suggesting a *greater need* for MHC in these regions. Thus, the fact that parents' acknowledgment of their children's need for MHC services was *not* significantly higher in honor states might suggest that parents were under-reporting their children's mental health needs in the present study. In effect, the greater need for mental healthcare might run counter to a culturally motivated reticence to admit such a need (which might be seen as a sign of weakness or impurity, consistent with the results of Study 1). These two factors might then cancel each other out, resulting in no difference in need acknowledgment. Of course, this explanation is purely speculative and will require more direct evidence before we can infer that such opposing factors can account for this null finding.

In view of the deficit in MHC resources shown in Study 2, we attempted to determine whether these resource deficits are sufficient to explain the underutilization we discovered in Study 3. The results pertaining to this question were mixed, however. Among the three MHC resources examined in Study 2, only the practitioners variable reduced state CH status to non-significance. This finding might suggest that increasing the number of MH practitioners could prove to be

an especially important avenue for ameliorating the underutilization of MH services that we observed in honor states. However, the practitioners variable, like expenditures and organizations, was not *itself* a significant predictor of utilization in the mediation model, so the requirements for a valid mediator were not fully met. Thus, simple lack of access to mental health resources does not appear to be fully sufficient to explain the underutilization of MHC resources by parents living in honor states. This lack of mediation is somewhat disconcerting, as it indicates that although the lack of resources for MHC in honor states is indeed a problem, solving this problem might not be sufficient to combat the *additional* problem of underutilization of MHC services for children needing care. Although it is imperative that people have access to proper resources to meet their mental health needs, simply having access is not enough—people must also be willing to avail themselves of those resources. The data from Study 2 and Study 3 together suggest that both lack of availability and underutilization of available options are serious issues connected to the values and priorities of honor culture.

General Discussion

Among the many dimensions on which cultures vary is the extent to which a society places defense of reputation at the core of its value system. This emphasis reflects the essence of the honor syndrome, and cultures or subcultures characterized by this syndrome exhibit reliably higher rates of interpersonal aggression, at least when such aggression serves a reputation-management function (Nisbett, 1993). Recent studies by Osterman and Brown (2011) have extended this connection between honor and violence against others to the realm of suicide, showing that men and women living in honor states in the U.S. South and West evidence heightened rates of suicide (especially if they are White and live in small towns, where

reputation concerns ought to be greatest). This research also provided preliminary evidence of a reticence to seek help for mental health needs in honor states, despite a greater level of need (in the form of higher rates of serious depression).

The present set of studies investigated more directly this inference about the reticence to seek help for mental health needs among individuals (Study 1) and in regions (Study 2 and 3) heavily influenced by honor-culture norms. Study 1 demonstrated that respondents who strongly embraced honor-related beliefs and values more strongly expressed concerns about the use of mental health services, and these concerns revolved around the fear of being (and being seen as) weak, inadequate, and unlikable. This association was independent of respondents' levels of self-esteem, tendency to respond in socially desirable ways, or gender. This last finding is noteworthy in part because the measure of honor ideology that we used in Study 1 was focused on the *masculine* dimension of honor ideology.

Study 2 switched to a regional level of analysis and showed that honor states in the United States invested less in MHC resources compared with non-honor states. This difference remained when we controlled statistically for a host of potential regional confounds, including economic deprivation, rurality, and religiosity. Study 3 showed that although caregivers in honor states were willing to acknowledge their child's need for MHC, they were less likely to seek professional help for those needs, compared with parents in honor states. This regional difference also remained when we controlled for individual differences in other, non-honor variables, such as religiosity, poverty, and health insurance. Importantly, this difference was not replicated when we examined caregivers' use of PHC services. Finally, we found that the availability of MHC resources could not fully account for the regional differences in utilization, although a noteworthy trend in this regard was observed for MH practitioners. This pattern suggests that merely increasing access to resources might not be sufficient by itself to reduce the underutilization of such services in honor states, as a culturally based reluctance to use available services might still remain even when access is improved. Thus, both increased access to care *and* reduction of the social stigma associated with the use of care are crucial if we want to increase help-seeking behaviors.

These studies represent a novel implication of honor culture beliefs and values that has previously not been demonstrated, although a similar reluctance to use MHC services has been documented among various U.S. minority groups that tend to exhibit honor and "face" related ideologies, such as East Asians (e.g., Loya, Reddy, & Hinshaw, 2010). The present studies, of course, are not without important limitations. For instance, Studies 2 and 3 depended on a regional level of analysis, and such analyses are fraught with interpretational difficulties. Although we relied on classic distinctions between "honor states" and "non-honor states" in these two studies (e.g., Cohen, 1998) and controlled for a number

of potential confounds (e.g., poverty, religiosity), we cannot be sure that we controlled for all of the "right" potential confounds in our analyses. This problem is equally true of prior studies of honor culture and aggression that rely on a regional level of analysis (e.g., Brown et al., 2009; Nisbett, 1993), which is why it is so important that these studies are complemented by other investigations that use an individual level of analysis (e.g., Cohen et al., 1996) as well as more direct measures of honor-related beliefs and values (e.g., Barnes et al., 2012; Leung & Cohen, 2011). The association we found in Study 1 between individuals' honor ideology endorsement and their attitudes toward using mental health services goes a long way toward reducing the interpretational difficulties inherent in regional comparisons, but we cannot eliminate these difficulties entirely.

Despite these limitations, we believe that these studies represent an important first step in demonstrating the link between the cultural ideology of honor and the stigmatization of mental health services, and we hope they inspire additional research in this area. Such research could occur at a more "macro" level in comparisons of nations that differ in the extent to which they are characterized by honor values and at a more "micro" level in studies that use more subtle measures of honor ideology endorsement, including non-conscious ones (e.g., Imura et al., 2014) as well as more subtle measures of MHC stigma.

These studies also underscore the perniciousness of the honor syndrome with respect to mental health. Previous research demonstrates the myriad ways in which honor ideology can transform trivial altercations into homicides (Nisbett & Cohen, 1996). This transformation appears not only among adults but also the young (Brown et al., 2009). The ideology that magnifies the emotional consequences of honor threats also appears capable of turning shame and distress into suicidal impulses (Osterman & Brown, 2011). Thus, when other people threaten someone's honor in an honor culture, those perpetrators are often targeted for retaliation. When someone's *own* failings threaten honor, however, violent impulses might be directed inwardly. What is particularly destructive about this cultural syndrome, though, is that it appears to stigmatize help-seeking for feelings of emotional distress. According to the present studies, even if people overcome their cultural aversion to help-seeking, the resources needed to help them—from mental health practitioners to hospitals—may be absent. Changing this cultural stigmatization remains an enormous challenge for policy makers interested in addressing our nation's mental health needs.

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Notes

1. The dataset included a variable indicating whether or not respondents lived in a metropolitan statistical area. More than 33% of respondents were missing data for this variable. Moreover, these missing data resulted in 15 states being eliminated from Level 2 of our hierarchical generalized linear modeling (HGLM) analyses. When we included this covariate despite these problems, this geographic variable was not a significant predictor of our dependent variables.
2. Although the natural log transformation of the outcome variable reduced the skew to an acceptable level, we were still concerned with the skew. We thus recoded this variable as 0 = *have seen a healthcare provider zero or one time* and 1 = *have seen a healthcare provider two or more times*. In an analysis using this recoded variable, states' culture-of-honor status still was not a significant predictor of utilization of physical health services, $\gamma_{01} = 0.07$, $t(48) = 0.79$, $p = .43$.

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