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Psychosis risk stigma and help-seeking: Attitudes of Chinese and Taiwanese residing in the United States

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Abstract

Aim: Intervention during the clinical high-risk phase for psychosis (CHR) can reduce duration of untreated psychosis and associated negative outcomes. Early treatment access and sustained engagement are important to understand for effective intervention. Understanding stigma and help-seeking processes is particularly important for groups that experience mental healthcare disparities such as those of Chinese heritage living in the United States.

Methods: Chinese and Taiwanese participants (N = 215) residing in the United States were randomly assigned to one of three CHR vignette conditions based on the "what matters most" stigma framework for Chinese groups, which identifies capacities that define "personhood" and thereby shapes stigma for members of a particular cultural group. Participants completed measures of help-seeking attitudes, family stigma and individual stigma.

Results: More stigma towards the CHR vignette character's family was associated with positive CHR help-seeking attitudes. Participants who read the vignette describing CHR affecting family obligations, "what matters most" and participants who read the vignette describing CHR symptomology only had more positive CHR help-seeking attitudes compared to participants who read the vignette describing CHR affecting individual aspirations.

Conclusions: Chinese and Taiwanese residing in the United States may perceive professional mental healthcare to be especially relevant for persons with CHR when symptoms are particularly stigmatizing for the person's family and when symptoms threaten the person's ability to fulfil family obligations (ie, "what matters most"). Clinical implications of findings include the importance of emphasizing positive treatment outcomes that increase an individual's ability to engage in valued life domains.

KEYWORDS

culture, help-seeking, psychosis, stigma

1 | INTRODUCTION

Recognition of the importance of early intervention in the effective treatment of psychotic disorders has spurred interest in the clinical high-risk phase for psychosis (CHR) (Li, Friedman-Yakoobian, Min, Granato, & Seidman, 2013). Even those identified as CHR who do not develop psychosis continue to experience significant impairments in cognitive, social and role functioning (Addington & Heinssen, 2012). Therefore, intervention is crucial when an individual is identified as CHR, when positive symptoms and functional impairments may be

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more responsive to treatment (Addington & Heinssen, 2012; Preti & Cella, 2010). Help-seeking during CHR is thus an important process to understand for intervention, which may reduce the development of psychosis and its negative sequelae.

Many individuals who develop psychosis experience extensive delays in seeking treatment, with the average duration of untreated psychosis (DUP) being approximately 2 years (Marshall et al., 2005). Long DUP is associated with increases in overall symptomology, depression, anxiety, negative and positive symptoms, as well as worse functioning (Marshall et al., 2005). Relatedly, short DUP is associated with better response to antipsychotic treatment, as measured by severity of overall psychopathology, positive and negative symptoms, and functioning outcomes (Perkins, Gu, Boteva, & Lieberman, 2005). Thus, evidence highlights the importance of improving early access to treatment.

Unfortunately, individuals from racial/ethnic minority groups in the United States, including Asian Americans, may be particularly vulnerable to a long DUP (Haas, Garratt, & Sweeney, 1998) and other mental healthcare disparities (Abe-Kim et al., 2007; Durvasula & Sue, 1996; Leong, 1994; Leong & Lau, 2001; Unick et al., 2011; Zane, Enomoto, & Chun, 1994). Research has found that these disparities in general mental health help-seeking and service utilization are particularly stark for certain subgroups of Asian Americans. Specifically, immigrants, as well as those with less US acculturation among Asian Americans have been found to be less likely to utilize mental health services (Abe-Kim et al., 2007; Le Meyer, Zane, Cho, & Takeuchi, 2009) and have less positive attitudes towards mental health help-seeking (Han & Pong, 2015; Hsu & Alden, 2008; Ying & Miller, 1992). Lower levels of education have also been associated with underutilization of mental health services (Leaf, Bruce, Tischler, & Holzer III, 1987). Although the literature on gender and help-seeking among Asian Americans has produced mixed results (Abe-Kim, Takeuchi, & Hwang, 2002; Ying & Miller, 1992), several studies have found higher rates of help-seeking in Asian American women than in men (Kung, 2003; Mo & Mak, 2009; Shea & Yeh, 2008; Tata & Leong, 1994). No research to date, however, has specifically examined help-seeking processes during CHR among Asian Americans. Understanding help-seeking attitudes for Asian Americans during CHR may help inform efforts to increase access and engagement with early intervention, reducing risk for long DUP.

In the general mental health literature, explanations for Asian American treatment disparities include logistical factors such as high costs of treatment, lack of knowledge of available services and language barriers (Kung, 2004), as well as cultural influences such as narrow perceptions of what constitutes a problem (Moon & Tashima, 1982; Tracey, Leong, & Glidden, 1986) and mental illness stigma (Li & Seidman, 2010). There is evidence that for some Asian cultural groups, professional mental health services are seen as justified when the problems being addressed are those that can be threatening to one's social group (eg, disruptive, dangerous behavior) (Moon & Tashima, 1982), and not personal experiences of emotional distress or generic interpersonal problems (Tracey et al., 1986).

Relatedly, mental illness stigma has been found to be especially relevant for Asian Americans (Eisenberg, Downs, Golberstein, & Zivin, 2009), with research showing that both stigma towards the affected individual (Fung, Tsang, & Corrigan, 2008; Judge, Estroff, Perkins, & Penn, 2008) and their family members (Ryder, Bean, & Dion, 2000; Wong et al., 2008) can be significant barriers to early and adequate treatment. Research conducted specifically with Chinese groups suggests that mental illness stigma may be most harmful when the ability to engage with core lived values is impaired (eg, inability to perpetuate and maintain family lineage through vocational success, courtship, marriage and having children) (Yang et al., 2014). Mental illness stigma may thus be amplified when mental illness putatively threatens an individual's ability to engage in "what matters most" as defined by local cultural values (Yang et al., 2007) and gendered social norms (Leong & Lau, 2001; Chiu, 2004). For example, in a qualitative study of mostly male Chinese immigrants with psychosis, Yang et al. (2014) found that the inability to provide financially for one's family, by threatening one's ability to perpetuate the family lineage, contributed significantly to psychosis stigma. Research examining the extent to which the "what matters most" conceptualization of mental illness stigma (Yang et al., 2007) might extend to other areas, such as marriage suitability and engagement with family obligations, would have particular relevance for understanding psychosis stigma among Chinese heritage women based on gendered social norms (Chiu, 2004; Riley, 1994; Zhan & Montgomery, 2003).

1.1 | Current study

Research extending the "what matters most" conceptualization to gendered valued domains relevant to Chinese heritage women would substantially extend the theory and its potential application to different gender groups. In addition, research specifically examining the relationship between stigma and professional help-seeking attitudes for CHR in Chinese heritage groups can have implications for reducing DUP by informing public campaigns and outreach efforts for early treatment and identification of psychosis risk during CHR. Identification and intervention during CHR may be favourable as CHR is characterized by an attenuated symptom profile and higher social and role functioning as compared to fully diagnosable psychotic disorders. These efforts would be enhanced by studies examining the relationship between stigma and professional help-seeking attitudes for CHR.

Given the importance of addressing mental healthcare disparities for groups at risk for long DUP, the salience of mental illness stigma, and the salience of gendered social norms among Chinese heritage groups, we aim to examine CHR help-seeking attitudes of Chinese and Taiwanese individuals residing in the United States based on responses to a CHR Chinese American woman vignette character. Our hypotheses are as follows:

1. Women, those with a higher level of education, and those born in the United States will have more positive CHR help-seeking attitudes.

2. Stigma towards a CHR individual and their family members will be negatively associated with CHR help-seeking attitudes.
3. When CHR symptoms affect a Chinese American woman's ability to fulfil family obligations, engage in "what matters most", CHR help-seeking attitudes will be least favourable.

2 | METHOD

2.1 | Participants

Participants (N = 215) aged 18 years and older, self-identified as Chinese and/or Taiwanese heritage and currently residing in the United States participated in the study. Participants ranged in age from 18 to 78 years old (*M* = 30.65; SD = 13.67); the majority identified as Chinese and/or Taiwanese origin (n = 183; 85%), with the remaining identifying as multi-racial/multi-ethnic with Chinese or Taiwanese origin (n = 32; 14.9%). Most of the participants identified as women (n = 144; 67%) and reported obtaining at least a college degree (n = 142; 66.1%). Approximately half of the participants were born outside of the United States (n = 108; 50.2%). Additional participant demographics are presented in Table 1.

TABLE 1 Demographics (N = 215)

	n	%
Mean age (*M* = 30.65, SD = 13.67)	--	--
Women[a]	144	67
Level of education[a]		
Some college or below	70	32.6
Completed college	72	33.5
Some graduate/professional school and above	72	33.5
US nativity[a]		
Born in the United States	108	50.2
First generation US immigrant	62	28.8
Other (eg, student/work visa)	41	19
Ethnicity		
Chinese	119	55.3
Taiwanese	42	19.5
Chinese and Taiwanese	22	10.2
Multi-racial/multi-ethnic	32	14.9
Survey language[a]		
English	157	73
Simplified and/or traditional Chinese	21	9.8
English and Chinese	6	2.8

[a]Three participants identified as gender fluid/non-binary, 1 participant had missing education information, 4 had missing US nativity information and 31 had missing survey language information.

2.2 | Procedure

Individuals with Chinese and/or Taiwanese heritage residing in the United States were recruited to participate in an online anonymous Qualtrics survey through emails to Asian, Chinese, and Taiwanese organizations in the United States and posts to social media/online volunteer boards. All recruitment texts and study materials were available in English, Simplified Chinese and Traditional Chinese through the Qualtrics online survey platform. The Qualtrics randomizer function was enabled to ensure that all individuals who provided informed consent were randomly assigned to read one of three vignettes (see Appendix) that described a Chinese American woman experiencing changes in her thoughts and behaviours that were consistent with a CHR designation (Galanter & Jensen, 2009; Yang et al., 2013). Participants were not informed that the character was considered at high-risk for psychosis and references to the condition were vague (eg, illness, condition, experience). Participants completed demographic questions and measures adapted to assess participant attitudes towards the CHR vignette character. All participants were given the option to enter a raffle for one of four $25 Visa gift cards. To be entered in the raffle, participants were prompted to provide their e-mail address on a separate Qualtrics survey where their contact information could not be linked to their previous survey responses. All study procedures and materials were approved by the Clark University IRB.

2.3 | Vignette conditions: Clinical high-risk for psychosis

The vignette was adapted from a case study (Galanter & Jensen, 2009; Yang et al., 2013), which described a Chinese American woman experiencing symptoms consistent with CHR for psychosis (See Appendix). Participants were randomly assigned to one of three conditions based on the "what matters most" (Yang et al., 2007) theoretical framework for stigma in Chinese groups: (a) a CHR symptom-only vignette (n = 68, 31.63%), (b) a "what matters most" family obligation condition in which the identical CHR symptoms were supplemented with text that described concerns about the vignette character's ability to fulfil family obligations such as care for her parents, get married and start a family of her own (n = 80, 37.21%) and (c) as a contrast to the "what matters most" condition, an individual aspirations condition that presented the identical CHR symptoms plus additional text that described concerns about the vignette character's ability to pursue personal aspirations and identity formation (n = 67, 31.16%).

2.4 | Measures

Perceived stigma was measured with an adapted version of the Devaluation and Discrimination Scale with eight original items and one culturally specific item about the vignette character losing "face" (Link, Cullen, Struening, Shrout, & Dohrenwend, 1989; Yang et al., 2014). For each item, participants were asked to evaluate how others with Chinese/Taiwanese heritage would perceive the vignette character on

a 4-point Likert scale (1 = "Strongly Disagree" to 4 = "Strongly Agree"). Higher scores reflected more CHR stigma. In this sample, internal reliability was good (Cronbach's α = 0.85). The Devaluation and Discrimination Scale will subsequently be referred to as CHR stigma.

Perceived stigma towards the vignette character's family was measured with an adapted version of the Devaluation of Consumer Families Scale with an additional culturally specific item about the vignette character's family losing "face" (Struening et al., 2001; Yang et al., 2014). For each item, participants were asked to evaluate how others with Chinese/Taiwanese heritage would perceive the vignette character's family on a 4-point Likert scale (1 = "Strongly Disagree" to 4 = "Strongly Agree"). Higher scores reflected more CHR stigma of family members. In this sample, internal reliability was good (Cronbach's α = 0.80). The Devaluation of Consumer Families Scale will subsequently be referred to as CHR family stigma.

Attitudes towards help-seeking were measured with the Attitudes towards Seeking Professional Psychological Help - Short Form (ATSPPH-SF; Fischer & Farina, 1995). The ATSPPH-SF has 10 items, measured on a 4-point Likert scale (1 = "Disagree" to 4 = "Agree"). The original ATSPPH-SF has been used in a general Asian American (Kim, 2007; Kim & Omizo, 2003) and a Chinese/Taiwanese sample in Taiwan (Chang, 2007). We adapted the items to be focused on the vignette character. Higher scores reflected more positive attitudes towards the vignette character seeking treatment for her symptoms. In this sample, internal reliability was good (Cronbach's α = 0.75). The ATSPPH-SF will subsequently be referred to as CHR help-seeking attitudes.

2.5 | Data analysis

About 342 participants consented to the study and were subsequently randomized to one of the three vignette conditions. One hundred nine participants were missing more than half of the measures for the study or were missing one of the primary measures for the study and were removed from analyses. Eighteen participants did not pass the attention check and were removed from analyses. The final sample consisted of 215 individuals. Among these individuals, no significant patterns were found for missing data as assessed by Little's MCAR (χ^2 = 106.35, *df* = 105, *P* = 0.44). In addition, there was no more than 5% of data missing for any one of the three primary measures (CHR stigma, CHR family stigma, CHR help-seeking attitudes) and thus, we proceeded with listwise deletion.

To test the hypothesis that women, those with a higher level of education, and those born in the United States would have more positive CHR help-seeking attitudes, *t* tests and analysis of variance (ANOVA) were used to identify differences in CHR help-seeking attitudes scores by participant gender, US nativity, and level of education.

To test the hypothesis that CHR help-seeking would be negatively associated with stigma towards a CHR individual and their family members, hierarchical linear regressions were used, controlling for participant demographic variables. All predictor variables were centred prior to the regression analysis. In the first step, participant gender, US nativity and level of education were entered in the regression equation. CHR stigma scores were entered in the next step. On an exploratory basis, we also examined the interaction between the demographic variables and the CHR stigma scores; these interaction terms were entered simultaneously in the third step. To evaluate the unique association between CHR family stigma score and CHR help-seeking attitudes, we repeated this process with CHR family stigma scores entered in the second step, instead of CHR stigma scores. In the third step, we also examined interactions between the demographic variables and CHR family stigma scores.

To test the hypothesis that CHR help-seeking attitudes will be least favourable for a CHR Chinese woman when symptoms threaten her ability to fulfil family obligations, "what matters most", an Analysis of covariance (ANCOVA) was used to examine whether significant differences on CHR help-seeking scores existed across the three experimental conditions (ie, CHR symptoms only, "what matters most" family obligations, individual aspirations), again controlling for demographic variables.

3 | RESULTS

3.1 | Preliminary analyses

CHR stigma and CHR family stigma scores were normally distributed, and thus amenable to parametric testing. Scores on the CHR help-seeking attitudes measure were non-normally distributed, with skewness of −0.75 (SE = 0.17) and kurtosis of 1.51 (SE = 0.33). The CHR help-seeking attitudes scores were squared to meet normality assumptions for parametric testing. We conducted analyses with both transformed and non-transformed CHR help-seeking scores and found the results to be substantively consistent. Thus, we present findings with non-transformed CHR help-seeking attitudes scores for ease of interpretation.

Means and correlations for all study variables are presented in Table 2. CHR family stigma scores were positively associated with CHR stigma scores (*r* = .65, *P* < .01) as well as with scores on CHR help-seeking attitudes (*r* = .17, *P* < .05).

Hypothesis 1 *Women, those with a higher level of education, and those born in the United States will have more positive CHR help-seeking attitudes*.

Women (*M* = 32.9, SD = 4.22) had significantly higher CHR help-seeking attitudes scores than men (*M* = 30.81, SD = 5.01) (*t* [208] = −3.1, *P* < .01). Results of an ANOVA indicated that there were significant differences on CHR help-seeking attitudes scores by participant education level (*F*[2, 209] = 6.61, *P* < .01). Scheffé post hoc tests indicated that participants with at least some graduate and/or professional school education (*M* = 33.67, SD = 4.85) had more positive CHR help-seeking attitudes scores than those with some college or below (*M* = 31.43, SD = 3.98) (*P* < .01) and those who completed college (*M* = 31.56, SD = 4.7) (*P* < .05). There were no significant nativity differences in CHR help-seeking attitudes scores.

TABLE 2 Means, SDs and correlations

Measure	*M*	SD	Range	n	1	2	3
1. Attitudes towards seeking professional psychological help (ATSPPH-SF)	32.22	4.62	11-40	213	--		
2. CHR stigma	24.53	4.61	9-35	212	0.15	--	
3. CHR stigma towards family	15.65	3.09	6-24	212	0.17*	0.65**	--

Abbreviation: CHR, clinical high-risk phase for psychosis.
*$P < .05$; **$P < .01$.

Hypothesis 2 *Stigma towards a CHR individual and their family members will be negatively associated with CHR help-seeking attitudes.*

In the first hierarchical regression, controlling for participant gender, education level, and nativity, CHR stigma scores were not significantly associated with CHR help-seeking scores (see Table 3). In addition, none of the interactions between CHR stigma scores and the demographic covariates were significant.

In contrast, in the second hierarchical regression, controlling for participant gender, education level and nativity, CHR family stigma scores were significantly positively associated with CHR help-seeking scores (β = .15, t[206] = 2.21, $P < .05$). None of the interactions between CHR family stigma scores and the demographic covariates were significant.

Hypothesis 3 *When CHR symptoms affect a Chinese American woman's ability to fulfil family obligations, engage in "what matters most", CHR help-seeking attitudes will be least favourable.*

Controlling for the demographic covariates, there were significant differences on CHR help-seeking attitudes scores across the three experimental conditions (F[2, 203] = 4.53, $P < .05$). As compared with participants in the individual aspirations condition (M = 30.67, SD = 5.26), participants in the CHR symptoms only condition (M = 32.61, SD = 4.48) ($P < .05$) and the "what matters most" family obligations condition (M = 33.19, SD = 3.83) ($P < .05$) had significantly higher CHR help-seeking scores. In addition, there was a significant interaction between participant gender and experimental condition (F [2, 203] = 4.42, $P < .05$), such that women (M = 32.29, SD = 4.34) had

TABLE 3 Hierarchical regressions for stigma on attitudes towards seeking professional psychological help

		Adj. R^2	ΔR^2	*B*	*SE B*	β	*t*
Step 1	Demographic predictors	0.10	0.11***				
	Gender			2.60	0.67	0.26	3.89***
	Nativity			−0.75	0.61	−0.08	−1.21
	Education			1.36	0.38	0.24	3.53***
Step 2	Main predictor	0.09	0.001				
	CHR stigma			−0.02	0.07	−0.02	−0.36
Step 3	Interaction variables	0.09	0.02				
	CHR stigma X gender			−0.08	0.15	−0.06	−0.52
	CHR stigma X nativity			0.22	0.14	0.15	1.61
	CHR stigma X education			0.03	0.08	0.07	0.38
		Adj. R^2	ΔR^2	*B*	*SE B*	β	*t*
Step 1	Demographic predictors	0.10	0.1***				
	Gender			2.66	0.67	0.27	3.97***
	Nativity			−0.66	0.61	−0.07	−1.08
	Education			1.38	0.39	0.24	3.57***
Step 2	Main predictor	0.12	0.02*				
	CHR family stigma			0.22	0.10	0.15	2.21*
Step 3	Interaction variables	0.12	0.02				
	CHR family stigma X gender			−0.19	0.23	−0.10	−0.83
	CHR family stigma X nativity			0.32	0.20	0.15	1.60
	CHR family stigma X education			−0.04	0.14	−0.07	−0.32

Note: All predictor variables were centred.
Abbreviation: CHR, clinical high-risk phase for psychosis.
*$P < .05$; **$P < 0.01$; ***$P < .001$.

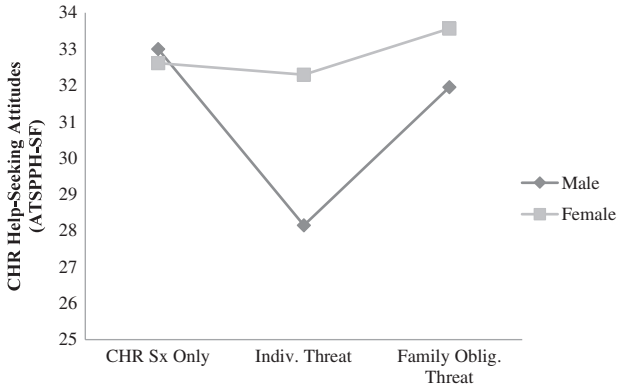

FIGURE 1 Interaction between Gender and Experimental Condition

significantly higher CHR help-seeking scores than men (M = 28.15, SD = 5.65) in the threat to individual aspirations condition (P < .05). Women (M = 33.56, SD = 3.93) also had significantly higher CHR help-seeking scores than men (M = 31.95, SD = 3.2) in the threat to family obligations condition (P < .05). There were no significant differences by gender in the symptoms only condition. See Figure 1.

4 | DISCUSSION

Asian Americans may be particularly vulnerable to long DUP (Haas et al., 1998), which has been associated with a number of negative outcomes (Marshall et al., 2005). Supporting the help-seeking process during CHR, a condition with an attenuated symptom profile and higher social and role functioning as compared to fully diagnosable psychotic disorders, is crucial to understand for early intervention, which may reduce the development of psychosis and its negative sequelae. The current study examined help-seeking attitudes for CHR among Chinese and Taiwanese individuals residing in the United States and extended the "what matters most" conceptualization of mental illness stigma (Yang et al., 2007) to gendered valued domains relevant to Chinese heritage women. In this vignette study, we found that women and those with higher levels of education were significantly more likely to endorse positive help-seeking attitudes for CHR. We also found that CHR family stigma was unexpectedly associated with help-seeking attitudes. Finally, we found that help-seeking attitudes were most positive when CHR symptoms were presented alone, or when they threatened "what matters most", family obligations. We now discuss each in turn.

Our finding that women had more positive help-seeking attitudes is consistent with both previous literature in Asian American (Mo & Mak, 2009; Tata & Leong, 1994) and general samples (Leaf et al., 1987). Research on caregivers has found that the majority of those who provide support for individuals with schizophrenia are female family members (Awad & Voruganti, 2008; Caqueo-Urízar et al., 2014), and the effects of role strain and socialized gendered expectations may contribute to gender differences in help-seeking decisions (Chiu, 2004; Sharma, Chakrabarti, & Grover, 2016). This could, in turn, influence women's attitudes towards professional help-seeking for CHR. With regard to more positive help-seeking attitudes among those with higher levels of education, previous research with Chinese Americans has found that those with more education tend to be more acculturated to the United States (Chen, 2009; Kung, 2004), and some evidence exists that higher levels of acculturation are associated with more positive attitudes and increased help-seeking for western mental health treatment (Ying & Miller, 1992). Somewhat surprisingly, we did not find a relationship between US nativity and CHR help-seeking attitudes. It is possible that we did not adequately capture variation in factors affecting help-seeking processes such as US acculturation (Ying & Miller, 1992) and English language proficiency (Le Meyer et al., 2009). We did not have a measure of US acculturation, and a large proportion of the individuals born abroad in our sample completed the study in English (n = 61, 69.3%), demonstrating high English proficiency.

With regard to CHR help-seeking and stigma, we did not find an association between CHR stigma and help-seeking attitudes. However, CHR family stigma was unexpectedly associated with more positive attitudes towards help-seeking—a finding that runs counter to general notions of stigma as a barrier to mental health help-seeking (Clement et al., 2015; Corrigan, Druss, & Perlick, 2014). It is possible that for the United States, Chinese and Taiwanese heritage participants in our study, problems and behaviours that warrant professional mental health services are those that are threatening to one's social group (Moon & Tashima, 1982), and not personal experiences of emotional distress or general interpersonal problems (Tracey et al., 1986). Furthermore, in Chinese groups specifically, stigma towards individuals might be driven "by an increased adherence to social roles, obligations and collective duties" (Yang et al., 2012, p. 1461); hence, how the public views families in relation to how an individual is expected to fulfil family obligations may be associated with a stronger endorsed need for treatment.

Relatedly, we found that professional help-seeking attitudes were most positive when CHR symptoms affected the vignette character's ability to fulfil family obligations and when participants were not told how CHR symptoms could affect her life outcomes. Help-seeking attitudes were least positive when CHR symptoms affected her individual/personal aspirations, a condition that was meant as a contrast to our "what matters most" condition. While this finding was counter to our hypothesis, it is consistent with literature mentioned above (Moon & Tashima, 1982; Tracey et al., 1986; Yang et al., 2012) that highlights the importance of intervention when symptoms threaten an individual's family and larger social group.

There are several limitations of the current study that warrant attention. First, the vignette character was a woman, and it is possible that our findings do not generalize to perceptions of men and gender minorities with CHR. It is also possible that the lack of gender matching between the participants and the vignette character (ie, all participants read a vignette about a Chinese American woman) could have contributed to our finding that women had more favourable CHR help-seeking attitudes for the woman vignette character for two of the experimental conditions. Future studies would do well to

include vignette characters with different genders and also randomize assignment of the vignette character's gender to respondents.

Second, the generalizability of online research is often limited by sampling issues (eg, nonrandom sampling) (Kraut et al., 2004). For example, most participants who were born abroad completed the study in English (n = 61, 69.3%). A large proportion of our participants who were born abroad had high English proficiency and perhaps higher socioeconomic advantages and thus, might differ from those who immigrated to the United States under more precarious circumstances.

Another limitation is that because respondents were reporting on what a hypothetical person should do if experiencing these symptoms, it is not certain that they would endorse the same beliefs if the vignette described a member of their own family (Huang, Yang, & Pescosolido, in press). Relatedly, it is possible that the way we prompted participants to answer questions about the vignette character may have influenced the results such that participants responded to the stigma items based on what they believed others felt—independent of their own beliefs while responding to the help-seeking items based on what they themselves believed—not others. We chose measures of public stigma which asked respondents how other Chinese/Taiwanese people would perceive the vignette character (eg, Most Chinese/Taiwanese people in your community would accept Mey as a close friend) and their family (eg, most Chinese/Taiwanese people in your community would rather not be friends with Mey's family) in order to reduce self-serving bias which might be elicited if we asked about participants' own stigmatizing attitudes (Link et al., 1989). Furthermore, consideration of "other's" stigmatizing attitudes has consistently held a robust association with help-seeking attitudes (Livingston & Boyd, 2010). However, future research should seek to understand the lived experiences and the potential role of stigma in the help-seeking process for families and individuals with psychosis risk. Results of the current study can inform strategies to increase help-seeking and treatment engagement for CHR individuals of Chinese heritage and their families. Given the significant consequences for the course and management of psychotic illnesses as resulting from long DUP (Keshavan et al., 2003; Marshall et al., 2005), early intervention, when an individual is identified as CHR, is crucial. This is especially true for groups with documented mental healthcare disparities, such as individuals from Chinese groups in the United States.

Findings from our study suggest that Chinese and Taiwanese individuals may perceive professional mental healthcare to be especially relevant when CHR symptoms threaten an individual's ability to fulfil family obligations. Hence, how the public views families in relation to how an individual is expected to fulfil family obligations may be associated with a stronger endorsed need for treatment. In addition, our findings present a nuanced picture of stigma and help-seeking attitudes for CHR such that favourable attitudes towards professional mental health treatment for CHR can be held in stigma inducing scenarios (family stigma, threat to one's ability to engage in core values) in a Chinese and Taiwanese community sample residing in the United States. Individuals and families may present to treatment with concerns about the CHR individual's ability to fulfil family roles and contribute to family expectations. Public education/outreach campaigns to encourage mental health help-seeking via Chinese and Taiwanese family members may include a message that emphasizes that treatment may better enable individuals to fulfil family expectations, instead of solely focusing on symptom reduction. Further research needs to be done in this area. Future work should seek to understand how to best tailor outreach, treatment engagement, and treatment strategies for CHR groups that acknowledge and address ambivalence towards psychiatric and psychotherapeutic approaches.

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APPENDIX A: The standard, symptom-only vignette read as follows

"Mey is a shy 21-year-old, Chinese American, female University student. In general, Mey has close friends, an A to B average in school, and an interest in movies and basketball. In the past 6 months, however, Mey started experiencing difficulties. She began to stay up most of the night and sleep during the day, showering less and withdrawing from friends and family. Mey began to feel as if people in the neighbourhood were looking at her more, which made her uncomfortable. When nervous, Mey sometimes thought she heard her name in the wind. Late at night she sometimes briefly felt a presence even though no one was there. Mey also had strange ideas that did not make much sense, and she was not sure why she thought them. She wondered if she had dreamed things before they happened and also felt that if a white car drove by, something bad might happen. Mey stopped going to class and spent most of her days alone in her room. In terms of her family, Mey's mother was hospitalized 25 years ago for a mental illness, which she promptly recovered from and which has never returned."

In the individual aspirations condition, the following text was added to the symptom-only vignette:

"Recently, a few neighbours were discussing the changes they noticed in Mey's behavior. One of the neighbours decided to talk to Mey's mother to express concern over whether or not Mey will be able to live a life where she will have the freedom to pursue her dreams. The neighbour is afraid that Mey will not be able to become the person she aspires to be."

In the family obligation condition, the following text was added to the symptom-only vignette:

"Recently, a few neighbours were discussing the changes they noticed in Mey's behavior. One of the neighbours decided to talk to Mey's mother to express concern over whether or not Mey will be able to live a life where she can fulfill her family obligations. The neighbour is afraid that Mey will not be able to take care of her parents, get married, and have a family of her own."