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Review

How does familiarity impact the stigma of mental illness?

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HIGHLIGHTS

- Familiarity has an inverse relationship with stigma
- Level of intimacy may affect the relationship between familiarity and stigma
- Anti-stigma strategies must consider the influence of familiarity, burden, and associative stigma

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ABSTRACT

This paper reviews studies on familiarity of mental illness to determine the relationships that familiarity has with public stigma. We propose a U-shaped relationship between familiarity and stigma that includes the expected inverse distribution (greater familiarity leads to less public stigma) and a provocative, positive relationship (familiarity in some groups leads to worse public stigma). Note that despite many studies in this arena, the U-shaped curve is not definitively supported by existing research. We believe its value, however, lies as a heuristic for hypotheses development to better understand the relationship between familiarity and public stigma. After reviewing research, we focus on two roles that comprise the surprising positive relationship: nuclear family members and mental health service providers like clinical psychologists. We then review research that suggests burden and associative stigma might account for the positive relationship between these groups and stigma. We end by using these findings to propose directions for future research, including on the development and evaluation of anti-stigma approaches.

Stigma is a major barrier to the therapeutic goals of clinical psychology. It may dissuade individuals with mental illness from engaging in evidence-based practices in order to avoid stigmatizing labels as well as rob them of life goals related to education, work, relationships, and independent living. A recent consensus report by the National Academies of Science (2016) concluded that the stigma of behavioral health conditions – i.e., mental illness and substance use disorder – continues to have a profound effect on the recovery of people with these conditions. The report distinguished public stigma (the harm that occurs when the population endorses stereotypes about a stigmatized group and subsequently discriminates against them) from self-stigma (the consequence that occurs when stigma is internalized and harms self-esteem and self-efficacy). One important task of research has been to identify correlates of stigma.

This paper examines the relationship of familiarity to public stigma. As the paper will show, familiarity is a complex construct defined as knowledge of, and more importantly experience with, the broad gamut of mental illness and corresponding interventions as experienced by one's social network. In this paper, we first review the empirical literature examining the correlation of familiarity and various proxies of public stigma. We expect this review will substantiate an inverse relationship between familiarity and stigma; the better people know mental illness, or people with these illnesses, the less likely they are to stigmatize. We will also, however, address a puzzling finding; namely, some people with especially familiar relationships (what we call more intimate people such as nuclear family members or mental health care providers) seem to stigmatize mental illness at a greater rate. We propose a U-shaped relationship between familiarity and stigma to explain this observation. The value of this model is not in its summary of the data per se but rather its heuristic value, its ability to stimulate ongoing conceptual development to better make sense of the complex relationship. We then pose factors that might explain the positive relationship between familiarity and stigma: burden and associative stigma. The paper ends by considering future directions for research on familiarity and public stigma, as well as development of stigma change strategies. With this information, clinical psychology might better understand its

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role in advocating for stigma change.

1. Research on public stigma and familiarity

Among its many definitions, public stigma has been described as the stereotypes, prejudice, and discrimination endorsed by the population which harms an individual labeled by a disrespected behavioral health condition (Crocker, Major, & Steele, 1998). Stereotypes are beliefs or expectations about a stigmatized group (e.g., people with serious mental illness are dangerous and unable to hold full time jobs.). Prejudice is agreement with the stereotype ("That's right; people with mental illness are dangerous…") leading to negative emotional reactions ("and therefore I am afraid of them."). Discrimination is the behavioral consequence that leads to loss of rightful opportunities: for example, employers do not hire people with serious mental illness, landlords do not rent to them, and primary care providers offer substandard health services (Thornicroft, 2006). Micro-aggressions are a subtle form of this kind of discrimination. They have been categorized into three groups: micro-assaults (e.g., name calling or purposefully discriminatory action), micro-insults (rude and insensitive communications), and micro-invalidations (communications that negate the other's experience or emotions) (Sue et al., 2007). Two qualitative studies identified micro-aggressive themes that correspond with the stigma of mental illness (Firmin, Mao, Bellamy, & Davidson, 2018; Gonzales, Davidoff, DeLuca, & Yanos, 2015).

There is another harmful effect of stigma. Many people with serious mental illness may refuse to engage in evidence-based care in order to escape the stigmatizing label that might come with it ("Hey, that's Harry coming out of the psychiatrists' office. He must be nuts!") (Corrigan, Druss, & Perlick, 2014). One goal is for anti-stigma programs to remove the egregious barriers wrought by prejudice and discrimination so people labeled with mental illness are able to avail life opportunities and seek out mental health services that might benefit them.

1.1. Defining familiarity

Originally, familiarity was measured as a dichotomous variable: yes or no, do you know someone with mental illness? (Penn et al., 1994). Statistical power of binary indices of stigma are limited so continuous measures of familiarity seem to be a logical next step in development (e.g. "On a Likert scale, do you know someone with mental illness?"). However, to our knowledge, no such measure has been developed or tested. The Level of Contact Report (LCR) is the other commonly-used measure of familiarity for mental illness (Corrigan, Green, Lundin, Kubiak, & Penn, 2001; Holmes, Corrigan, Williams, Canar, & Kubiak, 1999). The LCR assumes that familiarity increases by the nature of a relationship. Research participants are presented 12 such relationships that vary from least familiar ("I have never observed a person that I was aware had a serious mental illness"), to medium familiarity ("I have worked with a person who has a serious mental illness at my place of employment."), to high familiarity ("My adult child has a serious mental illness."). Reliable order of familiarity was established by an independent research sample (Holmes et al., 1999).

1.2. Summary of existing literature

Given these considerations, the research literature (PsycInfo and Medline) dated to January 1, 2018 was searched using keywords of familiarity and stigma with findings limited to studies examining behavioral health conditions; results are summarized in Table 1. The first set of studies in the Table examined stigma related to "mental illness" while the last set in the Table examined stigma of other behavioral health conditions including substance use disorder, developmental disabilities, and fetal alcohol spectrum disorder. Our review yielded 26 separate peer reviewed studies examining the relationship between familiarity and public stigma of mental illness. Mental illness was most often defined generically though some studies included specific illness labels including major depression, depression, schizophrenia, and bipolar disorder. Two studies compared people with different types of disorders: (1) autism, schizophrenia, and bipolar disorder (Durand-Zaleski et al., 2012) and (2) drug dependence and schizophrenia (Rubinshteyn, 2016). Respondents were most often students, drawn from around the world including Africa, Asia, Europe, and North America. Most studies assessed stigma directly using indices such as social distance (Adewuya & Makanjuola, 2008; Angermeyer et al., 2010; Ayazi et al., 2014; Broussard et al., 2012; Corrigan, Edwards, et al., 2001; Corrigan, Green, et al., 2001; Esterberg et al., 2008; Feeg et al., 2014; Horch & Hodgins, 2008; Janulis et al., 2013; Kirmayer et al., 1997; Mathias et al., 2018) or public stigma (i.e. negative stereotypes) (Arvaniti et al., 2009; Bedi et al., 2001; Bhadare, 2014; Corrigan et al., 2005; De Sousa, Marques, Rosario, & Queiros, 2012; Eksteen et al., 2017; Feeg et al., 2014; Halter, 2003; Hudes, 2007; Nielsen & Townsend, 2017; Pankhurst, 2010; Phelan & Basow, 2007; Rodgers et al., 2015; Sattler et al., 2017; Slevin & Sines, 1996).

The primary finding of interest in the review are studies that support the inverse association between familiarity and stigma. Of the 26 studies examining mental illness stigma, 19 yielded inverse correlations: those with higher familiarity were less likely to endorse the proxy of stigma. Five studies, however, found significant relationships in the opposite direction: more familiarity was positively correlated with greater stigma (Batastini, Bolanos & Morgan, 2014; Broussard et al., 2012; Corrigan et al., 2005; Phelan & Basow, 2007; Wolkenstein & Meyer, 2009). Note that four studies failed to find any significant relationship between familiarity and stigma (Ayazi et al., 2014; Durand-Zaleski et al., 2012; Halter, 2003; Pankhurst, 2010).

The bottom half of Table 1 looks at the familiarity-public stigma link for studies that focused on conditions in the broader behavioral health arena, not those labeled with mental illness. Conditions here included intellectual or learning disability, substance use disorder, pathological gambling, and bulimia. Of the six studies that emerged, three showed significant inverse associations between familiarity and stigma (Bedi et al., 2001; Sattler et al., 2017; Slevin & Sines, 1996). One study showed a positive association between familiarity and stigma (Sattler et al., 2017). Three studies found no significant correlation (Horch & Hodgins, 2008; Janulis et al., 2013; Rodgers et al., 2015).

2. The U-shaped relationship between familiarity and stigma

A provocative finding in Table 1 is studies that suggest the positive association: greater stigma leads to more familiarity. We propose a U-shaped curve as one explanation; see Fig. 1. As originally hypothesized, a downward slope defines half the distribution representing an inverse relationship between public stigma and familiarity. Public stigma diminishes as a group moves from having almost no experience with mental illness, to acknowledging acquaintances who, at an even more familiar level, might be co-workers or friends. Nineteen of 26 studies in Table 1 supported this relationship. Fig. 1 conjectures having extended family members – e.g., relatives not in the nuclear family – with mental illness as the familiarity level leading to lowest public stigma. The correlation between stigma and familiarity seems to reverse, however, when interpersonal relationships become more intimate beyond this point. Five studies found greater familiarity led to greater stigma. This is the inflection point in a U-shaped curve where an inverse relationship in the data switches to a positive relationship. We believe the inflection point can be understood when familiar relationships evolve to intimacy.

Two groups have seemingly intimate relationships with people with mental illness: nuclear family members (parents, siblings, spouses/partners, children of the person with mental illness) and mental health care providers (such as clinical psychologists). For nuclear family members, intimacy is often mutually shared, emotionally-valenced information that represents years of joint interaction. For care providers,

Table 1
Stigma-related correlates to familiarity with behavioral health conditions.

Authors	Stigmatized condition	Special characteristics of respondents	Correlates	Primary findings
Mental illness				
Adewuya & Makanjuola, 2008	Generic mental illness	Nigerians	Social distance	Significant inverse correlation related to experience of caring for person with MI
Angermeyer, Holzinger, & Matschinger, 2010	Major Depression Schizophrenia	2001 Population Survey in Germany	Social distance	Significant inverse correlation
Aromaa et al., 2011	Depression	Western Finland (15–80 years old)	Social discrimination	Significant inverse correlation
Arvaniti et al., 2009	Generic mental illness	Hospital staff and medical students	Negative attitudes	Significant inverse correlation
Ayazi, Lien, Eide, Shadar, & Hauff, 2014	Generic mental illness	South Sudanese	Social distance	No significant correlation
Batastini et al., 2014	Generic mental illness	Undergraduate students from a large university in introductory psychology courses	Public stigma[a] Social Distance[a] Perceived Dangerousness[b]	Significant inverse correlation[a] Significant positive correlation[b]
Bhadare, 2014	Generic mental illness	Asian Indians	Negative stereotyping	Significant inverse correlation
Broussard, Goulding, Talley, & Compton, 2012	Schizophrenia	Predominantly Protestant, low-income African Americans in Urban Southeastern United States	Difference[a] Social Distance[b]	Significant positive correlation (higher stigma) related to family treatment history[a] Significant inverse correlation (lower stigma) related to personal treatment history[b]
Corrigan, Edwards, Green, Diwan, & Penn, 2001	Generic mental illness	Community college students	Social Distance	Significant inverse correlation
Corrigan, Green, et al., 2001	Generic mental illness	Community college students	Perceived dangerousness Social Distance	Significant inverse correlation
Corrigan et al., 2005	Generic mental illness	Adolescents	Public Stigma	Significant positive correlation
De Sousa et al., 2012	Schizophrenia	Family members of inpatients at a community psychiatric hospital in Portugal	Public stigma	Significant inverse correlation
Durand-Zaleski, Scott, Rouillon, & Leboyer, 2012	Autism Schizophrenia Bipolar Disorder	French adults	Discrimination	No significant correlation
Eksteen, Becker, & Lippi, 2017	Generic mental illness	Psychiatrists, pre-clinical and post-clinical medical students	Public Stigma	Significant inverse correlation
Esterberg, Compton, Mcgee, Shim, & Hochman, 2008	Schizophrenia	Urban African Americans who were predominantly Protestant with low income and education	Social distance	Significant inverse correlation related to family history of psychiatric treatment and schizophrenia
Feeg, Prager, Moylan, Smith, & Cullinan, 2014	Generic mental illness	College students	Public Stigma Social Distance	Significant inverse correlation
Halter, 2003	Major depression	Patients waiting to be seen in a suburban primary care facility and urban public health department in Northeast Ohio	Public Stigma Stigma related to help-seeking	No significant correlation
Hudes, 2007	Schizophrenia	None	Public Stigma	Significant inverse correlation
Kirmayer, Fletcher, & Boothroyd, 1997	Generic mental illness	Inuit adults in Northern Quebec	Social distance	Significant inverse correlation
Mathias et al., 2018	Depression Psychosis	North Indians (Dehradun District)	Social distance	Significant inverse correlation
Nielsen & Townsend, 2017	Self-harm	Adults (18–67 years old)	Blame[a] Coercion[a] Avoidance[a,b] Anger[a,b] Dangerousness[a,b]	Significant inverse correlation with personal familiarity[a] Significant inverse correlation with professional familiarity[b]
Pankhurst, 2010	Generic mental illness	Clinicians, clinicians-in-training, nonprofessionals	Public Stigma	No significant correlation
Phelan & Basow, 2007	Depression Alcoholism	Undergraduate students	Social dominance orientation (separating “us” from “them”)[a] Labeling Perceived dangerousness Social tolerance	Significant positive correlation with alcoholism[a] No significant correlation on any measures for depression

(*continued on next page*)

Table 1 (*continued*)

Authors	Stigmatized condition	Special characteristics of respondents	Correlates	Primary findings
Powell, 2015	Generic mental illness	None	Anxiety Concerns about relationship trouble Negative beliefs about prognosis Negative beliefs about appearance and physical self-care	Significant inverse correlation
Rubinshteyn, 2016	Drug dependence Schizophrenia	Undergraduate students at Marquette University	Primary stigma Family stigma	No significant correlation
Wolkenstein & Meyer, 2009	Major Depression Mania	Vocational and technical secondary school students	Public stigma	Significant inverse correlation with major depression[a] Significant positive correlation with mania[b]
Other behavioral health conditions				
Bedi, Champion, & Horn, 2001	Intellectual/Learning disability	General dental practitioners and Dental auxiliaries/ professionals complimentary to dentistry	Negative attitudes toward provision of care	Significant inverse correlation
Horch & Hodgins, 2008	Disordered gambling	University students	Social Distance	No significant correlation
Janulis, Ferrari, & Fowler, 2013	Substance-related disorders (alcohol, marijuana, and heroin)	Undergraduate students in a mid-sized Midwestern university	Social Distance	No significant correlation related to familiarity with alcohol Significant inverse correlation related to familiarity with marijuana and heroin
Rodgers et al., 2015	Bulimia	None	Public Stigma	No significant correlation
Sattler, Escande, Racine, & Göritz, 2017	Drug addiction	Germans	Blame[a,g] Fear[a,c] Dangerousness[a,c] Coercion[a,c,g] Segregation[a,f] Pity[b,f] Avoidance[c,e,g] Obverse of stigma: Willingness to help[d,f]	Significant inverse correlation with familiarity related to higher education about SUD[a], having more peers with SUD[c], having higher self-reported knowledge about SUD[e], and having an SUD personally[g] Significant positive correlation with familiarity related to higher education about SUD[b], having more peers with SUD[d], and having more self-reported knowledge about SUD[f]
Slevin & Sines, 1996	Intellectual/Learning disability	Graduate and non-graduate nurses in general hospital	Public stigma	Significant inverse correlation

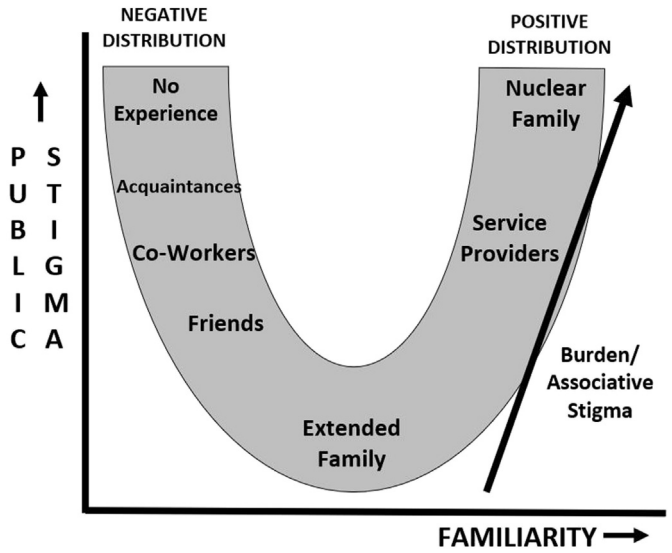

Fig. 1. The U-shaped relationship between public stigma and familiarity.

intimacy represents one-way, personal information about life barriers which are the target of client-provider relationships in therapy. Intimacy, typically described in terms of love, affection, and self-disclosure seems to be a strange descriptor of the one way relationship between person with mental illness and provider (Hook, Gerstein, Detterich, & Gridley, 2003). However, intimacy has also been described in terms of knowledge (Rosenblatt & Wieling, 2013), the kind of private information that describes the veritable panoply of a person's past, present, and future experience. The difference between nuclear family and provider intimacy is lack of mutuality in the latter. By design, provider-person relationships are meant to be one way with the focus entirely on the needs of the service recipient. Let us be explicit before going forward. In noting the greater rate of public stigma among nuclear family members or mental health care providers, we do not mean to add to the blame narrative about them. That only exacerbates the stigma experienced by groups who are driven by noble aspirations. Rather, we seek to understand any source of conflict between people with mental illness and their loved ones as a course to improve mutual goals going forward.

In this section of the paper, research reflecting the positive relationship between familiarity and stigma is reviewed separately in terms of nuclear family and service providers. We admit, the positive relationship is not as robust as the inverse association between familiarity and stigma (the downward slope in Fig. 1). One goal later in the paper, therefore, is to better describe the research agenda needed to plot the relationship suggested by the positive curve. Still, we believe that the U-shaped curve has value as a heuristic per se stimulating ongoing study of the provocative positive association for some interactions. We propose that two aspects of "intimate" nuclear family and provider relationships with the person with mental illness exacerbate stigma: (1) the burden of living with or clinically serving people with mental illness and (2) the stigma extended to nuclear family members or providers associated with them.

2.1. Nuclear families

A qualitative study by Moses (2010) gave voice to the public stigma which adults with mental illness experience from nuclear family members. A third of participants in the Moses' study reported stigmatizing behaviors from parents.

> "My mom, she sometimes does that [treats me normal], but once I start getting a problem… then she starts treating me way different. Then, right away sometimes she'll start thinking if I should go back to a mental hospital or something. But my dad treats me normal!" (Moses, 2010, p. 988).

Another 12.5% of participants said predominant experiences with family were stigmatizing.

> "My family were treating me like I was the outsider because I was the only one in my family that was ADHD and their mostly – that thought I was unsafe around my brothers and sisters because I was hyperactive and always being impulsive and stuff… They would say like I was always like crazy." (Moses, 2010, p. 988).

2.2. Family burden

Family burden may explain one reason for stigma from family members. We examine the impact of nuclear families by reviewing findings about parents of adult children (by far, the majority of the research) followed by familiarity impact of other nuclear family members (e.g., siblings, spouse, children). Family burden has been defined as objective and subjective reactions family members have to the relative with mental illness (Caqueo-Urízar et al., 2014; Gelkopf & Roe, 2014). Objectively, parents may experience challenges to finances, health, work, and extra-familiar relationships that result from mental health related problems of their son or daughter with mental illness. Subjectively, these challenges may lead to anxiety, depression, or anger that undermine the parent's quality of life. Family members reporting greater burden are likely to admit to greater public stigma; e.g., "When the person with mental illness and I are in public, I pretend that we are not related" (Van der Sanden, Pryor, Stutterheim, Kok, & Bos, 2016, p. 1235; also see Chien, Yeung, & Chan, 2014; Van der Sanden, Stutterheim, Pryor, Kok, & Bos, 2014). Burden seems to worsen with responsibility, the degree to which parents perceive themselves as necessary in the pursuit of goals by the person-with-mental-illness (Solomon & Draine, 1995).

Family burden as a construct per se may have conceptual baggage exacerbating stigma of which researchers should be cognizant. The construct frames the objective and subjective struggles between parents and their children as burdensome and bad which reduces the range of experiences between parent and child – both negative and positive – to a hurtful label. A more recovery-oriented perspective might summarize family experiences with a nuanced perspective of both the positive and negative experiences that define all families.

2.3. Stigma by association

Burden may be exacerbated by associative stigma (Goffman, 1963). Stigma by association represents the prejudice and discrimination experienced by families because of their relationship with the person with mental illness. Like people with mental illness, some of their family members may be harmed by public and by self-stigma (Moses, 2010; Phelan, Bromet, & Link, 1998; Struening et al., 2001; Van der Sanden, Bos, Stutterheim, Pryor, & Kok, 2013). In terms of public stigma, families report that friends, neighbors, and coworkers often blame them for their relatives' mental illness or express disapproval because the relative has not quickly recovered. Family members may feel alienated from neighbors and coworkers, people in their putative support network that might conceivably assist the family in its goals, all which may lead to objective burden (Angermeyer, Schulze, & Dietrich, 2003; Magliano, Fiorillo, De Rosa, Malangone, & Maj, 2005; Perlick et al., 2007; Phelan et al., 1998). Research suggests the public may believe that family members are somehow infected by mental illness themselves and therefore avoid them (Corrigan, Watson, & Miller, 2006). One study directly examined associative stigma experience extended to nuclear families (Van der Sanden et al., 2013).

2.4. Self-stigma

Burden may also worsen when family members internalize stereotypes, leading to self-stigma. One study showed family burden's impact on stigma was not associated with public stigma per se but rather hesitation to disclose one's previous mental health experiences (Fernando, Deane, McLeod, & Davis, 2017). Another showed parent burden was associated with a sense of shame about their adult child with mental illness (Hasson-Ohayon, Levy, Kravetz, Vollanski-Narkis, & Roe, 2011). They might blame themselves for their relatives' illness – believing, for example, that they are genetically flawed or were bad parents – which can lead to shame (Moses, 2010). Shame may cause them to keep family experiences related to mental illness a secret (Van der Sanden et al., 2013). Interestingly, this relationship was impacted by parental insight about their child's mental illness; parents who better understood their adult child's problems as a mental illness, and not some other cause, were more likely to endorse stigma and family burden. Hasson-Ohayon and colleagues (2011) noted this as a surprising association, what they believed to be another case of the insight paradox (Lysaker, Roe, & Yanos, 2007). Insight in the Lysaker et al. study focused on awareness of ones' own mental health challenges testing a naïve assumption that more self-knowledge is better for decreasing self-stigma. Contrary to expectations, high insight may interact with self-stigma leading to diminished hope and self-esteem (Lysaker et al., 2007). This may suggest that parents who better understand the mental illness of their children translate this understanding into greater shame (Hasson-Ohayon et al., 2011).

Some family members and friends are challenged by an additional type of stigma: vicarious stigma. This is the sense of sadness and helplessness a family member feels when observing a relative being the object of prejudice or discrimination because of the mental illness (Corrigan & Miller, 2004); e.g., the parents who feels sad when their adult child is excluded form an extended family holiday party. Combined, these experiences can worsen the subjective burden of mental illness in the family. Research has in fact supported a relationship between perceived family burden and parental self-stigma (Hasson-Ohayon et al., 2011).

2.5. Stigma and other nuclear family members

Are other nuclear family members – siblings, spouses/partners, and children – likely to endorse the public stigma of mental illness? First person accounts seem to suggest yes.

> "Growing up with a mentally ill mother was oppressive and worrisome and it interfered with the development of my sense of self. I was terrified that I was like my mother and therefore had something wrong with me. Actually self-conscious, I felt inferior to other children." (Lanquetot, 1988, p. 337).

Findings about associative stigma in other nuclear family members suggests some support of the association. Several studies have looked generically at family burden among "caregivers" (Ohaeri, 2003), supporting the association that more intimate family relationships lead to greater burden. Findings from a qualitative study showed burden is experienced by other nuclear family members (Van der Sanden et al., 2014). Lenny, a 45 year old spouse said:

> "You can't really manage the instability. You can't really live with it. Constantly asking if it's alright but making a point of never asking how they really feel is exhausting. So in that sense it has taken a toll on me, on my energy and my enjoyment of life."

And Jennifer, a 45 year old sister said,

> "As a sister, you've got your own life but suddenly nobody pays attention to what you're doing anymore, because that's all going well. All the attention is focused on one problem, her illness, and you're not involved in it anymore and then you no longer have any real contact with your family [sigh]. You sort of accept it but you are already an afterthought."

Quantitative research, however, has not specifically demonstrated burden in these other nuclear family roles nor has it examined relative differences across roles; e.g., whether burden is greater in parents versus siblings or spouses.

Research has examined differences in public stigma across nuclear family roles with one study showing public stigma varying by role (Corrigan et al., 2006). Parents were more likely to be viewed as responsible for the onset of mental illness and siblings responsible for offset; offset refers to treatment efforts that help people control their mental illness once it begins to harm them. Children were believed to be contaminated by their parent's mental illness. A separate study compared how associative stigma varied by nuclear family role (Van der Sanden et al., 2013). Results showed associative stigma in parents is as bad as children of people with mental illness. Combined, this research suggests factors that worsen public stigma are present for other roles in the nuclear family. Research is needed, however, to better specify its form and impact.

2.6. The irony of provider familiarity

Most mental health professionals pursue their career for altruistic reasons, or a desire to help those troubled by psychiatric symptoms and disabilities (Burks, Youll, & Durtschi, 2012; Wakefield, 1993). Hence, it is surprising they might endorse stereotypes and discriminate against people labeled "mentally ill." A comprehensive review found eleven research surveys on mental health provider attitudes toward mental illness published between 1990 and 2004 that partially seemed to support this relationship (Angermeyer & Dietrich, 2005; Corrigan, Druss, & Perlick, 2014; Schulze, 2007). On the negative side, service recipients and their family often describe mental health professionals as the source of stigma, with specific providers frequently focusing on the disease while ignoring the person (Holzinger, Beck, Munk, Weithaas, & Angermeyer, 2003; Pinfold, Byrne, & Toulmin, 2005). Surveys of professionals find that as many as half failed to endorse recovery as an outcome for serious mental illness (Magliano, Fiorillo, De Rosa, Malangone, & Maj, 2004). Mental health providers endorse stereotypes about mental illness, including perceptions of dangerousness, unpredictability, and blame (Kingdon, Sharma, & Hart, 2004; Magliano et al., 2004); they were likely to endorse greater social distance in some studies (Lauber, Anthony, Ajdacic-Gross, & Rössler, 2004). Psychiatrists are especially pessimistic about mental illness compared with general practitioners, clinical psychologists, and mental health nurses (Caldwell & Jorm, 2001). One study directly tested the familiarity-stigma link in psychiatrists and demonstrated that psychiatrists who perceived themselves as "socially closer" to people with mental illness were more likely to endorse the stigma (Lauber et al., 2004).

Two bodies of research suggest that provider stereotypes undermine good practice (Angermeyer & Dietrich, 2005; Schulze, 2007). One showed that almost half of participating psychiatrists did not share a diagnosis of schizophrenia with the patient unless specifically asked (ÜÇok, Polat, Sartorius, Erkoc, & Atakli, 2004). Other research among people with lived experience of mental illness failed to show psychiatrists engaging service recipients in such real-life issues as finance, accommodations, and leisure (Kilian et al., 2003; Schulze & Angermeyer, 2003). In addition, public stigma may undermine primary health care for people labeled with mental illness. People with mental illness experience health challenges that yield alarming morbidity rates (World Health Organization [WHO], 2005) and die, on average, 15 to 30 years younger than others in their cohort (Saha, Chant, & McGrath, 2007). Multiple risk factors contribute to premature mortality, including lifestyle factors (tobacco use, lack of physical activity, unhealthy diet), poor quality of medical care, and poverty, which may limit access to

healthy eating, physical activity, and high-quality health care providers (Druss, Zhao, Von Esenwein, Morrato, & Marcus, 2011). Research suggests, however, that stigma among primary care providers contributes to lower quality of care in this population (Thornicroft, 2013). Compared with patients not identified with mental illness, studies have shown that health providers are less likely to refer patients with mental illness for mammography (Koroukian, Bakaki, Golchin, Tyler, & Loue, 2012), inpatient hospitalization after diabetic crisis (Sullivan, Han, Moore, & Kotrla, 2006), prescription practices for arthritis (Corrigan, Mittal, et al., 2014), or cardiac catheterization (Druss, Bradford, Rosenheck, Radford, & Krumholz, 2000).

In a classic paper, Cohen and Cohen (1984) explained the stigma of providers in terms of the clinician's illusion. Although Cohen and Cohen were explaining the perceived difference between clinical and research populations, their conclusions help understand how provider stigma varies by clinical setting. Providers working in inpatient or emergency settings where they work with people in acute crisis, compared to providers working in extended outpatient or rehabilitation settings, are likely to have attitudes that are more stigmatizing and less hopeful. They work with people when they are at their symptomatic worse. These patients leave the inpatient/emergency setting after symptoms remit and recover. Hence, provider perspectives about people with serious mental illness are limited by their narrow range of experience. Although this seems to be a reasonable hypothesis, we were unable to find research that shows how stigma and perspective vary by clinical setting: inpatient versus outpatient.

2.7. Provider burden (burnout) and associative stigma

Mental health services providers are influenced by burden and associative stigma which may in turn lead to greater endorsement of public stigma. Burden among health care providers has been shown to be correlated with negative perspectives of patients and their families (Dawkins, Depp, & Seizer, 1984). Burden related to patient care then leads to burnout (Freudenberger, 1992). Research fairly consistently shows health care providers report significant burnout (Devi, 2011) with studies showing mental health care professionals reporting greater job stress than other health care groups (Zuardi, Ishara, & Bandeira, 2011). Basic factors that comprise burnout hint to the stigmatizing quality of the experience (Maslach & Jackson, 1986). Burnout leads to depersonalization, which is reflected as an unfeeling and distant response to the needs of others for whom they are providing service. This may not be deliberate discrimination per se but more unconscious disengagement from caring for the other (Maslach & Leiter, 2016). Burnout was also shown to be positively associated with proxies of public stigma (Dyrbye et al., 2010; Dyrbye et al., 2015).

In terms of associative stigma, qualitative research has yielded several themes that reflect associative stigma among providers: describing the profession to others, media portrayal of professionals, assumptions about the field, and job devaluation (Vayshenker, DeLuca, Bustle, & Yanos, 2018). Two quantitative studies showed associative stigma in providers is positively related to their burnout (Verhaeghe & Bracke, 2012; Yanos, Vayshenker, DeLuca, & O'Connor, 2017). Provider associative stigma was found to worsen self-stigma and treatment satisfaction among people receiving services from these providers (Verhaeghe & Bracke, 2012).

A comprehensive review of more than 500 studies suggested that the public endorses varied stereotypes about psychiatry and psychiatrists which are likely to fuel associative stigma (Sartorius et al., 2010). The practice of psychiatry is often viewed by the public as ineffective or possibly harmful, by medical students as having low status, by patients as failing to target essential problems, and by the media as a discipline without true scholarship. Psychiatrists are frequently viewed in a similar negative light. The public views psychiatrists as low-status physicians who rely too much on medication. Medical students believe that psychiatrists “must be crazy.” These all may lead to associative stigma (Sartorius et al., 2010). Research has shown burnout and associative stigma to be positively correlated leading to a potential worsening spiral (Verhaeghe & Bracke, 2012).

3. Implications for future research on a U-shaped curve

Ongoing research is needed to better support the U-shaped curve in Fig. 1, especially the increase in stigma observed among those with more intimate relationships with mental illness. We consider important issues with design and analyses, as well as conceptual definition, in moving this agenda forward.

3.1. Design and analysis issues

An essential first step is to revisit measurement of familiarity per se in making sense of the U-shaped curve. Our review earlier in the paper showed description of familiarity to be a focus of research but assessment of the construct limited. Familiarity, as discussed earlier, largely reflected an ordinal model of differing roles vis-à-vis the person with mental illness, with hierarchy among these roles supported in one prior study (Holmes et al., 1999). The hierarchy of discrete roles in Fig. 1 is fundamentally an ordered arrangement which does not lend itself to the statistical demands necessary for testing the curve. Testing a U-shaped curve requires at least an interval scale of measurement for polynomial regression. Primary research is therefore needed to superimpose a continuous measure of familiarity on the discrete roles in Fig. 1. Among other things, this would cross-validate the original ranking done almost 20 years ago.

We used intimacy as a construct to specifically explain the positive association in Fig. 1. Perhaps continuous measures of intimacy may be a way to map the familiarity-public stigma connection across the U-shaped curve. Research on intimacy is rich with measurement development which might adapt to the familiarity questions of Fig. 1 (Constant, Vallet, Nandrino, & Christophe, 2016; Waring, 1985). Factor models have identified several that comprise intimacy including satisfaction, commitment, trust, passion, and love (Fletcher, Simpson, & Thomas, 2000). While levels of satisfaction, trust, and commitment might vary across all the roles in the curve (from no experience to nuclear family members), trust, passion, and love seem to reflect romance which as an explanatory construct seems strained as a way of indexing roles in the distribution representing the negative association (no experience, acquaintance, co-worker, friend). Earlier in the paper, we argued that characterizing provider familiarity in terms of intimacy makes sense when using knowledge. Future research, therefore, may need to unpack whether some subfactors of intimacy validly reflect familiarity in the left hand distribution of the figure.

Fig. 1 assumes the distribution is curvilinear; namely that a single function explains all familiarity-public stigma data points on the U-shaped curve. Alternatively, the data may be better described as a V shaped curve, two independent linear functions that never come together at the inflection point. In this light, Fig. 1 may represent one negative association that reflects inverse functions showing the relationship between familiarity and public stigma and a positive association showing the obverse. Key to the idea of the V curve is that the two functions act independently. In this light, future research may need to determine whether intimacy is only explanatory for the positive association with another, yet to be found, concept describing the negative association.

Distinguishing between linear and curvilinear distributions will require polynomial regressions which increases sample size demands of future research significantly. In addition, future research needs to adequately sample the diversity of roles making sure to get adequate numbers of people with no experience, acquaintances, co-workers, friends, extended family members, serviced providers, and nuclear family members. Accomplishing this goal will require stratified sampling with samples minimally at 1000.

3.2. Conceptual definition

Two aspects of intimacy for nuclear families and for providers were posed as agents in the positive relationship: burden and associative stigma. Including burden and associative stigma into research models as moderators or mediators of the familiarity-stigma connection may help to better understand the positive relationship. For research on nuclear families, this means including valid indices of both subjective and objective burden. For providers, this requires indices of burnout that assess both emotional exhaustion and depersonalization. As data aggregates, research may determine whether subfactors of burden and burnout better explain the positive relationship.

Similarly, research should address moderating and mediating roles of associative stigma on the familiarity-public stigma link. Research on associative stigma has begun to make sense of this phenomenon for nuclear family members (Corrigan & Miller, 2004). Vicarious stigma is a newer phenomenon that might add perspective on the negative impact of having an intimate relationship with a person with mental illness (Moses, 2014; Struening et al., 2001; Wahl & Harman, 1989). Associative stigma is still a relatively unexamined phenomenon for providers though Yanos et al. (2017) developed and tested a measure of the experience. Their work showed associative stigma among providers is described by multiple factors including negative stereotypes about professional effectiveness, discomfort with disclosure, negative stereotypes with mental illness, and stereotypes about professionals' mental health. Future research should include measures of burden/burnout and associative stigma as covariates in testing distributions.

Research should also continue to develop better definitions of individual roles that populate the Fig. 1 curve. We selected these roles based on earlier research (Holmes et al., 1999). Future studies need to determine the content validity of individual roles and whether additional examples are missing. In terms of content validity, the impact of the nuclear-extended family distinction likely varies by culture. We asserted herein that nuclear family members (parents, siblings, spouse, children) are more familiar or intimate with its relatives with serious mental illness compared to extended family members. This may reflect a Western European bias because research shows other cultural groups seem to rely on and are more intimate with extended family members (Kamo, 2000). In the United States, these may include African Americans, Asians, and Latinx. Researchers, however, have developed conceptual models that better describe the complexity of family roles beyond the simple nuclear-extended division. Georgas (1993) identified both structural (designation of family positions such as parent, child, or grandmother) and functional (the degree to which family survival, physical, and psychological needs are met). A 16-country study suggested culture makes sense more by function than structure (Georgas et al., 2001).

Finally, future research may want to consider the role of the person with mental illness in his or her family. The discussion herein assumed the person was an adult family member because research on adults dominates the stigma literature. We suspect the distribution between familiarity and public stigma will change when the person with mental illness is an underage child. Population research has confirmed that children with psychiatric disorders (e.g., ADHD or depression) are viewed as more dangerous to others and to self than children with physical health disorders (asthma) or “daily troubles” (Pescosolido, Fettes, Martin, Monahan, & McLeod, 2007). This kind of public stigma impacts parents of children with mental health disorders. Parents are likely to hold themselves responsible leading to self-stigma by failing to meet the “good parent” ideal (Eaton, Ohan, Stritzke, & Corrigan, 2016, 2018). To our knowledge, research has not yet determined how parent experiences with burden or associative stigma lead to stigmatizing attitudes and behaviors toward their underage children. Nor have we found research that has examined other family member (e.g., siblings, aunts/uncles, grandparents) attitudes and behavior toward the child with mental illness. We suspect, however, that the phenomenon will differ from that experienced by adult family members with mental illness, because of, among other reasons, social and cognitive developmental differences and parental responsibilities for underage children.

4. Implications for diminishing the stigma of mental illness

The ultimate worth of stigma research lies in its impact on anti-stigma programs. At this point, the U-shaped curve suggests anti-stigma programs may need to differentially address the inverse relationship between familiarity/public stigma and the positive relationship. Significant research has already examined overall stigma change irrespective of familiarity, dividing interventions into education (i.e., enhancing knowledge by contrasting myths versus facts of mental illness) versus contact (i.e., equal-status interactions between the public and people in recovery from serious mental illness). Although findings are equivocal, meta-analyses suggest contact leads to better effect sizes immediately post intervention (Corrigan, Morris, Michaels, Rafacz, & Rüsch, 2012; Griffiths, Carron-Arthur, Parsons, & Reid, 2014) and at follow-up (Corrigan, Michaels, & Morris, 2015). One reason for contact's benefits may be the degree to which it enhances familiarity consistent with the inverse relationship in the U-shaped curve. Given the limited impact of education, we do not think enhanced knowledge (e.g., more facts about what is an illness) in itself accounts for these benefits. Rather, contact-based interventions need to communicate the essential humanity of the individual with mental illness. One important line of research has framed this in terms of the impact of narrative enhancement (Yanos, Roe, & Lysaker, 2010). Research suggests that experience of identity is not just a set of beliefs about oneself, but is better described as a sequence of experiences arranged in a storied manner (Gallagher, 2000; Lysaker, Clements, Plascak-Hallberg, Knipscheer, & Wright, 2002). Appreciation of the depth and breadth of humanness in this identity requires crafting and sharing these stories. Narrative enhancement and cognitive therapy have thus far been used to diminish self-stigma in the person with mental illness (Roe et al., 2014; Yanos, Roe, West, Smith, & Lysaker, 2012). Future research should determine the impact of narrative enhancement in decreasing the public stigma of mental illness as familiarity increases.

The positive distribution in the U-shaped curve offers different challenges. Most nuclear family members, for example, are already at the ceiling of familiarity suggesting contact in itself may have limited impact. Future research and development should target those factors that may worsen the familiarity-public stigma link: burden and associative stigma. Targeting both these factors offers special challenges. For example, as reviewed earlier in this paper, education on burden may worsen public stigma by framing people with mental illness as largely hardships on nuclear family members or a source of burnout on providers. Interventions that help each group replace a sense of burden with a more complete view of shared experiences that are both positive and negative (a normative view of families, for example, whether illness is a hardship for them or not) will decrease overload and corresponding public stigma. These kinds of interventions need to be done in the spirt of shared responsibility rather than one group (the nuclear family or provider) having priority and setting the agenda. Family therapy has been shown to help with this in families with members with schizophrenia and other serious mental illness (Pilling et al., 2002). Shared decision making, a newer approach to the treatment armamentarium where clinicians and people with mental illness work together to make healthcare decisions, seems to have similar promise for decreasing provider burnout by working in a framework of mutual responsibility (Drake & Deegan, 2009; Hamann et al., 2006).

Might addressing associative stigma lead to similar reductions in nuclear family and provider stigma to the person with mental illness? Although researchers have noted the importance of intervention development herein (Gouthro, 2009; Verhaeghe & Bracke, 2012), we are unaware of strategies evaluated for decreasing provider stigma. Candidates might include the kind of contact strategies that diminish

stigma against the person with mental illness. Still, another note of caution is needed; nuclear family and providers cannot tackle associative stigma on the backs of the person with mental illness (Corrigan & Angermeyer, 2012). They do not want to get into a battle of "mine is worse than yours" which might only broaden the divide between the two groups. With future research, the nature of our propose U-shaped curve may mature. We believe this evolution will lead to better ways to diminish stigma on people with mental illness, and those familiar people around them.

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The corresponding author wrote the manuscript and created Fig. 1. The co-author conducted the literature searches, completed Table 1 of the manuscript, and revised the manuscript for the final submission (including completion of the reference list).

Conflict of interest

The authors do not report any conflicts of interest in the completion of this manuscript.

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