



This is a repository copy of *Perceived stigma and health-related quality of life in the working uninsured: Does thwarted belongingness play a role?*.

White Rose Research Online URL for this paper:
<http://eprints.whiterose.ac.uk/119296/>

Version: Accepted Version

Article:

Hirsch, J., Sirois, F. orcid.org/0000-0002-0927-277X, Visser, P. et al. (4 more authors)
(2017) Perceived stigma and health-related quality of life in the working uninsured: Does thwarted belongingness play a role? *Stigma and Health*. ISSN 2376-6972

<https://doi.org/10.1037/sah0000116>

© 2017 American Psychological Association. This paper is not the copy of record and may not exactly replicate the authoritative document published in the APA journal. Please do not copy or cite without author's permission. The final article is available, upon publication, at: <https://doi.org/10.1037/sah0000116>.

Reuse

Items deposited in White Rose Research Online are protected by copyright, with all rights reserved unless indicated otherwise. They may be downloaded and/or printed for private study, or other acts as permitted by national copyright laws. The publisher or other rights holders may allow further reproduction and re-use of the full text version. This is indicated by the licence information on the White Rose Research Online record for the item.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.



eprints@whiterose.ac.uk
<https://eprints.whiterose.ac.uk/>

Please cite as:

Hirsch, J. K., Sirois, F. M., Visser, P. L., Brooks, B. D., Kohls, N., Offenbacher, M., & Toussaint, L. (in press). Perceived stigma and health-related quality of life in the working uninsured: Does thwarted belongingness play a role? *Stigma and Health*.

Perceived Stigma and Health-Related Quality of Life in the Working Uninsured: Does Thwarted
Belongingness Play a Role?

Jameson K. Hirsch, Ph.D.¹

Fuschia M. Sirois, Ph.D.²

Preston Lee Visser, Ph.D.³

Byron D. Brooks, M.A.¹

Niko Kohls, Ph.D.⁴

Martin Offenbacher, M.D.⁵

Loren Toussaint, Ph.D.⁶

Department of Psychology, East Tennessee State University¹

Department of Psychology, University of Sheffield²

Frontier Health³

Division of Integrative Health Promotion, Coburg University⁴

Institute of General Medicine, University of Munich⁵

Department of Psychology, Luther College⁶

Corresponding Author: Jameson K. Hirsch, Ph.D., Department of Psychology, 420 Rogers Stout Hall,
East Tennessee State University, Johnson City, TN 37614; Telephone (423) 439-4463; Email:
hirsch@etsu.edu

Keywords: Health-Related Quality of Life, Financial Stigma, Belongingness, Primary Care, Self-Determination Theory

Abstract

The extent to which individuals perceive stigma from others and internalize stigmatizing beliefs is increasingly recognized as a contributor to psychological and physical distress. Individuals in poverty may feel increasingly stigmatized as a result of financial hardship; however, little research has examined the linkage of financial stigma to health outcomes, nor the potential underlying explanatory mechanisms of such an association. According to Self-Determination Theory, loss of social capital, which often occurs when a person is stigmatized, may deleteriously affect health outcomes, yet this premise has not been tested. We assessed the incremental impact of sociodemographic characteristics, and experienced and internalized financial stigma, on health-related quality of life (HRQL), as well as the mediating effect of belongingness, in a sample of 100 working, uninsured primary care patients. Results confirmed that experienced and internalized perceived stigma contributed additional variance, over the effects of sociodemographic factors, to poor HRQL, and belongingness was a significant mediator. Financial stigma may increase isolation, reducing opportunities for meaningful social connections, thereby deleteriously impacting mental and physical health outcomes. Therapeutically addressing stigma, and bolstering social connectedness, may improve HRQL in the underserved and impoverished.

Health-Related Quality of Life in the Working Uninsured: Understanding the Role of Perceived Stigma and Belongingness

The Great Recession has resulted in millions of people receiving the unenviable label of “poor” and worsening an already troublesome income equality gap (Williams, 2009). In the United States, for instance, the number of people at or below the poverty line increased by 10 million from 2006 to 2012 to reach 46.5 million or 15.0% of the population, including an alarming 13.8% of working-age adults (Gabe, 2013). In addition to the materialistic disadvantages of being poor that can negatively affect health outcomes, people in poverty are also impacted by stigma of poverty, which involves non-poor individuals physically and cognitively distancing themselves from the poor by excluding, devaluing, discounting, and labeling them as “other” (Lott, 2002).

The term *stigma*, which in original Greek referred to visible signs on a person’s body that indicated an inferior status, was expanded by Goffman (1963) to include visible and invisible attributes, behaviors, or reputations that cause a person to be devalued by others. Link and Phelan (2001) emphasized that the ability to stigmatize depends on “...access to social, economic, and political power that allows the identification of differentness, the construction of stereotypes, the separations of labeled persons into distinct categories, and the full execution of disapproval, rejection, exclusion, and discrimination” (p. 367). Extant literature chronicles the negative effects that stigma can render on its recipients, including a deleterious influence on health-related quality of life (e.g., Herrmann et al., 2013; Lillis et al., 2011). Numerous attributes such as gender, ethnicity, sexuality, and mental health and disease states can be the basis for stigmatization to occur (Frost, 2011; Mulvaney et al., 2011; Roeloffs et al., 2003). Poverty is a common cause of stigma, but it has been relatively neglected in the literature (Williams, 2009). Non-poor individuals may view people in poverty as having characterological flaws such as being lazy or morally deficient (Reutter et al., 2009; Williams, 2009). Although focusing on outsiders’ perspective of impoverished individuals can be important for understanding social barriers

related to poverty, it is also necessary to understand the personal, internal experience of potentially-stigmatized individuals (Mickelson & Williams, 2008; Williams, 2009). For instance, in societies that stress the importance of personal merit in obtaining wealth, low-income individuals are at risk of developing a negative, inferior self-image (Bosma et al., 2012); such poor self-evaluation may, in turn, negatively impact health functioning.

Mickelson and Williams (2008) highlighted two aspects of perceived financial stigma that may affect health outcomes. First, *internalized* stigma refers to the negative views of self-identity that individuals adopt regarding themselves based on their impoverished status. Second, *experienced* stigma refers to perceptions that individuals have been or may be treated negatively based on their poverty. In their study of low-income women, Mickelson and Williams found that internalized and experienced financial stigma was significantly related to depressive symptoms, and that these associations were partially explained by fear of rejection and low self-esteem. Beyond this study, however, there is a general dearth of literature on the effects of self-perceptions of financial stigma (Reutter et al., 2009). Studies investigating stigma of other conditions, such as severe and persistent mental illness, intellectual disability, leprosy, epilepsy, and HIV/AIDS, indicate associations between experienced or internalized stigma and negative outcomes including impairment in mental and physical health, increased risk behavior, poor academic and job performance, and interpersonal dysfunction (e.g., Frost, 2011; Heijnders & Van der Meij, 2006).

One useful outcome variable that could be utilized to provide a broad assessment of stigma's relationship with overall well-being is health-related quality of life (HRQL), which is a multidimensional construct that reflects self-evaluation of how well participants function in daily life routines and how highly they rate their subjective well-being. Importantly, self-reported HRQL is distinct from, but robustly predicts, objectively-assessed physical, mental, and social health (Hays & Morales, 2001; McHorney, 1999). For example, research on medical stigma, pertaining to epilepsy and chronic viral

infection, found that higher experienced stigma was associated with lower HRQL (Drazic & Caltabiano, 2013; Lim et al., 2009).

A better theoretical and empirical understanding of potential mechanisms of action between stigma and health-related quality of life, such as interpersonal risk and protective factors, would inform future longitudinal research and development of interventions. For instance, studies based on Self Determination Theory (SDT) suggest that factors that thwart psychological needs, or one's sense of autonomy, competence and relatedness, detract from the ability to engage in intrinsically-motivated behavior and negatively affect well-being (Ryan & Deci, 2000). In part, this is because feeling controlled and pressured by external forces, feeling incapable of escaping stressful circumstances, and lacking connectedness to others reduces one's sense of well-being (Muraven et al., 2007; Ryan & Frederick, 1997). By definition, stigma involves social factors that detract from a person's sense of social, economic, and political control (Link & Phelan, 2001), that remove sense of social efficacy and capacity, and which contribute to both real and perceived social isolation (Świtaj, Grygiel, Anczewska, & Wciórka, 2014).

Thus, if stigma damages existing relationships, or prevents the formation of new relationships, then this basic psychological need of relatedness may remain unmet, resulting in a deterioration of mental and physical functioning and capabilities. This line of investigation is predicated upon the longstanding notion, such as in the work of Freud, Bowlby and Maslow, that humans have a fundamental need to belong, which is satisfied by two criteria: frequent, pleasant interactions with others that evoke positive mood, and that these interactions are stable, over time, and reflect concern for the welfare of one another (Baumeister & Leary, 1995). When such relationships are not forthcoming, a sense of thwarted belongingness may emerge, which represents the unmet need to belong among others and is built upon the latent variables of loneliness and the absence of reciprocal care (Van Orden et al., 2012).

Generally, relatedness, along with similar constructs such as connectedness, social support and belongingness, have a well-documented association with good health and well-being, whereas the lack of

such relationships, as evidenced by loneliness, social isolation, and thwarted belongingness, is strongly related to maladaptive health behaviors, morbidity and mortality (Eisenberger, 2013; McKenzie, Whitley, & Weich, 2002). For example, loneliness and lack of reciprocal relationships is associated with poor sleep, high blood pressure, and deficits in immune functioning, as well as higher pain ratings in fibromyalgia patients (Cacioppo, Capitanio, & Cacioppo, 2014; Wolf & Davis, 2014), increased morbidity and mortality in older adults (Perissinotto, Stijacic Cenzer, & Covinsky, 2012), and poorer self-rated health in Finnish adults and British civil servants (Chandola, Marmot, & Siegrist, 2007; Nummela, Seppänen, & Uutela, 2011). What is unknown, however, is whether perceived stigma exerts its deleterious effect on health via disruption of social relationships.

The goal of this study was to improve our understanding of the effects of perceived financial stigma, by addressing two questions: 1) How are perceptions of internalized and experienced financial stigma related to health-related quality of life, over and above the effects of socio-demographic characteristics? Given the current evidence on the generally negative effects of stigma, it was expected that higher financial stigma would be associated with poorer mental and physical HRQL. 2) Does belongingness explain the proposed associations between different aspects of financial stigma and mental and physical HRQL and, thus, help us understand a mechanism of action for the stigma-HRQL linkage? As noted previously, research on the benefits of social support suggest that belongingness (or lack thereof) might account for the health outcomes associated with financial stigma, which was our hypothesis. To address an alternative model of the role of belongingness in the relation between financial stigma and HRQL, we also tested whether different levels of thwarted belongingness might attenuate or strengthen the stigma-HRQL linkage.

Methods

Procedure. Our participants were recruited from a nonprofit primary care clinic in the Southeastern Appalachian region of the United States. The clinic can be classified as a *local access to*

care program (LACP), meaning that it has a formal system for providing specified basic health services to primarily low-income and underinsured patients (Blewett et al., 2008). When sampled in 2011, the target population for the clinic was low-income adults 18-64 years of age coming from working homes (i.e., the patient or at least one adult member in the home was employed). Clinic patients ($N = 100$) in this Institutional Review Board-approved study completed a survey battery and, upon completion, were compensated for their participation.

Participants. The sample of 100 primary care patients ranged in age from 18-64 years old ($M = 42.04$; $SD = 12.81$) (See Table 1) and consisted of 71 participants that identified as female and 29 as male, and most ($n = 93$; 94%) reported being White. Regarding employment status, 42 participants were employed full-time, 31 endorsed part-time employment, and 26 were not employed at the time of the survey. Most of the sample ($n = 73$) reported an annual income level of less than \$20,000 with a third of those ($n = 28$) making less than \$10,000. Nineteen reported income between \$20,000 – 29,999, while the rest make more than \$30,000 per year or did not answer ($n = 2$).

Measures. We assessed health-related quality using the Short-Form-36 Health Survey (SF-36v2) (Ware, 2004), a 36 item scale assessing eight dimensions of health-related quality of life (HRQL), with subscales including social functioning, mental health, role limitations due to emotional health, vitality, and general health, role limitations due to physical functioning, physical functioning, and bodily pain. In addition to subscales scores, this measure yields two composite scores: Physical Components Summary (HRQL-PCS) and Mental Components Summary (HRQL-MCS) (Ware & Kosinsky, 2001). Previous research indicates that these composite scores are suitable for use with low income, rural and primary care samples (Bharmal et al., 2005; Weeks et al., 2004). Use of the SF-36v2 in health-related samples has exhibited acceptable to good internal consistency for the HRQL-PCS (.81) and the HRQL-MCS (.88) (Chasens, Sereika, Burke, Strollo, & Korytkowski, 2014). In our study, internal consistency was good for the MCS ($\alpha = .87$) and PCS ($\alpha = .81$).

To assess stigma related to participants' financial situation, we used the Perceived Stigma of Financial Situation scale (PSFS) (Mickelson, 2001; Mickelson & Williams, 2008), which is an 8-item questionnaire using a 5-point Likert scale that assesses subjects' agreement with statements about potential stigma experienced during the past 6 months. There are two dimensions of the PSFS, including items that assess internalized stigma, such as "I have felt that I am odd or abnormal because of my financial situation," and four items that address experienced stigma, such as "I have found that people say negative or unkind things about me behind my back because of my financial situation." The PSFS subscales produced scores with adequate to good psychometric support in samples of low-income females (Mickelson & Williams, 2008; Williams & Mickelson, 2008). In the current study internal consistency was good for both subscales (internalized stigma $\alpha = .81$; experienced stigma $\alpha = .82$).

To assess belongingness, we used the Interpersonal Needs Questionnaire (INQ) (Van Orden et al., 2012; Van Orden et al., 2008), which has participants indicate on a 7-point Likert scale how much they agree or disagree with statements about feeling connected with others. We used the 18-item version of the scale that was made publicly available through the senior author's research laboratory website (see www.psy.fsu.edu/~joinerlab), and we generated the total belongingness score using only the 9 items that assess belongingness specifically (Van Orden et al., 2012). Items include six positively worded statements such as "These days, I am fortunate to have many caring and supportive friends" and three negatively worded statements such as, "These days, I feel like an outsider in social gatherings." The scale has produced scores with acceptable to excellent psychometric support (Davidson et al., 2010; Freedenthal et al., 2011; Rasmussen & Wingate, 2011; Wong et al., 2011). Internal consistency in the current sample was excellent ($\alpha = .93$).

Statistical Analyses

Correlation analyses were first conducted to assess the proposed relations among the study variables. To understand the unique contributions of internalized and experienced financial stigma for

explaining physical and mental HRQL, two hierarchical linear regressions were conducted, one for each of the HRQL variables. Participant sex, age, and income were entered in the first step and, then, internalized and experienced stigma were entered in the second step to examine their unique, incremental contributions over the sociodemographic factors. Of note, due to minimal amounts of missing data, sample size varies slightly between analyses, ranging from 97-100 participants.

To test whether belongingness mediated the proposed relationship between financial stigma and mental and physical HRQL (see Figure 1), a series of mediation analyses were conducted using the SPSS macro PROCESS (Hayes, 2013). This technique for testing the significance of indirect effects employs a bootstrapping resampling procedure that involves drawing k bootstrapped samples, to estimate the indirect effect and its confidence interval (CI). For the current analyses, 5,000 bootstrapping resamples and bias corrected 95 percent confidence intervals were used. Four mediation models were tested, one for each of the experienced and internalized financial stigma variables, and each of the HRQL variables, with age, gender, and income added as covariates in each model. To rule out the alternative hypothesis, the associations between financial stigma and HRQL vary as a function of the level of belongingness, moderation tests were also conducted with the PROCESS (Hayes, 2013) macro.

Results

Using the norm-based scoring procedure described in the SF-36v2 manual (Ware et al., 2000), a score of 50 ($SD = 10$) represents the 1998 population mean for adults in the United States. Compared to national norms, participants in the present sample scored lower on the Physical Components Summary (PCS) ($M = 44.82$, $SD = 19.29$) and the Mental Components Summary (MCS) ($M = 42.27$, $SD = 19.90$); further, males reported significantly higher PCS and MCS scores than females (see Table 1). Given a possible range from 1 to 5 on stigma scale items, our participants reported a greater than average score on the subscales of experienced (mean = 2.87) and internalized stigma (3.59). Our sample reported a slightly below average score on the belongingness scale (2.58), which has a range of 1 to 6. Thus, our sample

appears to have lower HRQL scores than national samples, higher than average stigma scores, and below-average levels of belongingness.

At the bivariate level, experienced and internalized financial stigma were significantly, negatively related to belongingness, PCS ($r = -.38$ and $-.40$, $ps < .001$) and MCS ($r = -.50$ and $-.45$, $ps < .001$). Greater experienced and internalized stigma were associated with less belongingness and poorer mental health quality of life. Table 2 lists other bivariate associations among the study variable.

Regression Analyses. The regression predicting physical HRQL found that age was the only significant socio-demographic predictor in the first step, with the combined socio-demographic factors accounting for 13 percent of the variance in physical HRQL (see Table 3). Greater age was related to poorer physical HRQL. The addition of experienced and internalized financial stigma in the second step accounted for an additional 18 percent of the variance in physical HRQL, with only experienced financial stigma explaining unique incremental variance; that is, greater perceived financial stigma was related to poorer physical HRQL. Together the sociodemographic and stigma variables accounted for 31 percent of the variance in physical HRQL.

For mental HRQL, gender and income, but not age, accounted for significant variance in mental HRQL in the first step of the regression. Females, and those with a lower income, had poorer mental HRQL. Similar to the regression for physical HRQL, and additional 18 percent of the variance in mental HRQL was explained with the addition of experienced and internalized financial stigma in the second step (see Table 3). Both financial stigma variables accounted for unique variance in mental HRQL, and together explained an additional 18 percent of the variance in mental HRQL above that explained by socio-demographic factors. That is, greater experienced and internalized financial stigma was associated with poorer mental HRQL. When combined, all factors in the model accounted for 32 percent of the variance in mental HRQL.

Mediation Analyses. The test of the indirect effects of experienced financial stigma on physical HRQL through belongingness was non-significant (see Table 4). The direct effects of stigma on physical

HRQL remained significant, however. For mental HRQL, the indirect effects of experienced financial stigma through belongingness were significant, as were the direct effects. Greater perceptions of having experienced financial stigma were related to poorer belongingness and, in turn, to worse mental HRQL.

When examining physical HRQL as the outcome, there was not a significant indirect effect of internalized financial stigma, via belongingness, although the direct effect was significant (See Table 5). In contrast, the indirect effect of internalized financial stigma on mental HRQL through belongingness was significant, as was the direct effect. Greater internalization of financial stigma was related to less belongingness and, in turn, to poorer mental HRQL. Consistent with the recommendations made by Simmons, Nelson, and Simonsohn (2011), the mediation analyses were also conducted without any covariates in the model, and there were no meaningful differences in the results.

Moderation analyses. The moderation analysis for experienced financial stigma and mental HRQL was non-significant (R^2 change due to interaction = .00, $F(1, 93) = 0.24$), nor was the moderation of belongingness for physical HRQL (R^2 change due to interaction = .01, $F(1, 93) = 0.95$). Similarly, non-significant moderation results were found for the interaction terms for internalized financial stigma and belongingness with mental HRQL as the outcome (R^2 change due to interaction = .01, $F(1, 93) = 0.66$), and the interaction for internalized stigma and belongingness, with physical HRQL as the outcome (R^2 change due to interaction = .00 $F(1, 93) = 0.66$).

Discussion

In a sample of low-income adults from working households, we investigated a model of how experienced and internalized financial stigma may impact health-related quality of life (HRQL). Our results provide an expected but important contribution to the literature in confirming a robust, negative relationship between perceptions of financial stigma and HRQL, as assessed by the Mental Components Summary (MCS) and the Physical Components Summary (PCS) of the Short-Form 36 questionnaire. As well, given the importance of strong social connections for health, and with stigma compromising social

connections, we expected that perceptions of belongingness would mediate the relation between stigma and health. Our hypotheses were supported for mental but not physical HRQL, in that both forms of financial stigma were related to decreased belongingness and, in turn, to poorer mental health-related quality of life. The tests of the alternative hypothesis found that there was no moderating effect of belongingness on the stigma-HRQL association.

Although there is a well-established literature noting the link between poverty and poor HRQL, and between stigma and poor HRQL, very little previous work has examined perceptions of stigma related to being financially disadvantaged. Since SDT emphasizes the importance of strong social connections for health, and stigma represents generally negative social connections, our findings were consistent with this theoretical perspective.

To begin, despite our focus on financial stigma, it is important to note that persons who are experiencing such stigma are also highly likely to be experiencing actual financial difficulties and, so, may not have the resources to actively engage in their own health goals (e.g., transportation or child-care costs; health-related supplies; healthy foods) (Lam, Guo, Wong, Yu, & Fung, 2016); this barrier to HRQL cannot be overlooked. However, the effects of perceived and experienced financial stigma may be less overt, and somewhat more insidious, than actual socioeconomic distress. With regard to a direct relation between financial stigma and health, it may be that self-perceptions of poverty and internalized disdain result in a sense of powerlessness to successfully engage in healthy behaviors or with healthcare providers, or to follow health-related treatment recommendations. This is supported by past research; for instance, stigma about mental illness was linked to poor treatment seeking and failure to adhere to treatment recommendations in persons with depression (Sirey et al., 2001), HIV-stigma was related to poor health-related quality of life (Herrmann et al., 2013), and being stigmatized as an illicit drug user was linked to poor physical HRQL (Ahern, Stuber, & Galea, 2007). However, no previous research has examined financial stigma as a contributor to poor HRQL.

It may also be that financial stigma affects HRQL, particularly mental HRQL, indirectly, via its erosion of the social capital and support that a person needs to remain healthy. As shown in previous research, feeling stigmatized contributes to both perceived and actual isolation, disconnectedness and loneliness and, in our current study, we extend this pattern to include thwarted belongingness. Thus, persons who feel financial stigma are not able to engage interpersonally to the degree that they desire, with resultant self-punitive thoughts (e.g., rejection, self-devaluing) and behaviors (e.g., isolation due to embarrassment). As previous research suggests, persons with feelings of low self-worth and who are disconnected from others, often manifest poor mental and physical health. As examples, in a study of COPD patients, lower self-efficacy was related to worse mental HRQL (Andenaes, Bentsen, Hvinden, Fagermoen, & Lerdal, 2014), and was related to worse mental and physical HRQL in pain patients (Yazdi-Ravandi et al., 2013). Similarly, loneliness was related to poorer self-rated health and poorer HRQL in a German community sample (Hoebel, Kuntz, Müters, & Lampert, 2013), and lack of social support was related to lower HRQL, longitudinally, in women with breast cancer (Leung, Pachana, & McLaughlin, 2014). In our current sample, we found that thwarted belongingness only mediated the relation between financial stigma and mental HRQL, suggesting that stigma-based disruptions to social relationships most severely impact psychological functioning. This may be because, other than the direct effects of poverty on health, perhaps financial stigma, as a socioeconomically-based factor, is less focused toward the physical self (i.e., a derogatory comment about poverty may not increase physical pain or impairment), and more focused toward the psychological self (i.e., poverty-based discrimination may promote depressive symptoms), in that financial stigma contributes injury to self-esteem and self-valuing, and might strip a person of a sense of volitional empowerment (Corrigan, Larson, & Rüsçh, 2009).

Overall, our findings suggest that financial stigma can impact HRQL directly, and also through its negative impact on one's sense of belongingness (Richman & Leary, 2009). This is in line with previous work indicating the relation between lack of belongingness and poor health whereas, on the other hand, positive and supportive relationships with important others may be a protective factor even in the face of

stigma (Williams & Mickelson, 2008). Yet, in our moderation analysis, we found no evidence to support that thwarted belongingness moderated the stigma-HRQL linkage, suggesting that social support (or the lack of it), may be less salient as a buffer when a person is financially stigmatized, as opposed to other forms of stigma. This assertion requires additional investigation. Also in need of exploration in future research, is a better understanding of the distinction between being part of a social group (i.e., poor, uninsured), and connectedness on an interpersonal level. For instance, does “belonging to” a stigmatized community (e.g., the poor) impact health risk in a different way than lacking belongingness (e.g., loneliness, poor social support)? This distinction is critical, yet no comparative analyses have been conducted; however, past research has indicated that being part of a marginalized group, as well as having a lack of social belongingness, exert a deleterious effect on health.

As public policies such as the Affordable Care Act attempt to reduce inequity in access to healthcare resources that disproportionately negatively affects low-income individuals, it is important not to lose sight of the fact that disparities in HRQL outcomes may persist if individuals’ perceptions of stigma are not also addressed. Sociological research has hitherto failed to provide clear evidence of how to directly reduce society’s stigmatizing attitudes in general, much less with respect to financially stigmatizing beliefs (Heijinders & van der Meij, 2006). As such, our results may have clinical implications. For instance, clinical studies using cognitive-behavioral (CBT) or motivational interviewing (MI) techniques have suggested that perceptions of self-stigma can be reduced with brief interventions (Corrigan & Calabrese, 2005; Luty et al., 2009; Macinnes & Lewis, 2008). While CBT attempts to alter underlying unhelpful thoughts and beliefs about oneself, MI enhances motivation to make healthy changes, and is thought to be effective in part because it promotes fulfillment of the basic psychological needs of autonomy, competence, and relatedness (Markland et al., 2005). Our results provide some preliminary support for using SDT to explain how perceptions of financial stigma relate to HRQL, but more research is needed that includes measures specifically assessing basic psychological needs.

Limitations of the current study include the use of a cross-sectional design, which inhibits causal inferences. Also, other potential mediators of the relationship between stigma and HRQL were not assessed, such as self-efficacy, self-esteem or fear of rejection (Mickelson & Williams, 2008). Although of low socioeconomic status, our sample was also primarily White, which limits generalizability to other marginalized groups; for instance, intersectionalities of self, such as being both poor and non-White, may contribute to greater stigma and poorer health than that originating from a single source (e.g., finance alone) (Viruell-Fuentes, Miranda & Abdulrahim, 2012). Future, longitudinal research is needed to confirm our findings, and to investigate the relative importance of belongingness among these other variables in affecting the relation between stigma and HRQL.

Despite the limitations, important strengths and contributions of the study include the use of a low-income primary care sample, the use of psychometrically supported instruments, and the description of a viable model for understanding psychological processes involved in how financial stigma affects health-related quality of life. In sum, our findings suggest that the experience and internalization of financial stigma is associated with the thwarting of the critical psychological need of belongingness and, in turn, to lower levels of mental and physical health-related quality of life, a pattern of findings which suggest several points of intervention for individual-level therapeutics and societal-level stigma reduction and health promotion campaigns.

References

- Ahern, J., Stuber, J., & Galea, S. (2007). Stigma, discrimination and the health of illicit drug users. *Drug and Alcohol Dependence*, 88(2–3), 188–196.
<https://doi.org/http://dx.doi.org/10.1016/j.drugalcdep.2006.10.014>
- Aiken, L. S. & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Andenaes, R., Bentsen, S. B., Hvinden, K., Fagermoen, M. S., & Lerdal, A. (2014). The relationships of self-efficacy, physical activity, and paid work to health-related quality of life among patients with chronic obstructive pulmonary disease (COPD). *Journal of Multidisciplinary Healthcare*, 239.
<https://doi.org/10.2147/JMDH.S62476>
- Baron, R. M. & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182. doi:10.1037//0022-3514.51.6.1173
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychol.Bull.*, 117, 497.
- Bharmal, M., Thomas, J., Gold, M., Reinhardt, U., Shields, A., & Shields, A. (2005). Health Insurance Coverage and Health-Related Quality of Life: Analysis of 2000 Medical Expenditure Panel Survey Data. *Journal of Health Care for the Poor and Underserved*, 16(4), 643–654.
<https://doi.org/10.1353/hpu.2005.0064>
- Blewett, L. A., Ziegenfuss, J., & Davern, M. E. (2008). Local access to care programs (LACPs): New developments in the access to care for the uninsured. *Milbank Quarterly*, 86, 459-479.
doi:10.1111/j.1468-0009.2008.00529.x
- Bosma, H., Simons, A., Groffen, D. A. I., Klabbers, G. (2012). Stigmatization and socio-economic differences in health in modern welfare states. *European Journal of Public Health*, 22(5), 616-617. doi:10.1093/eurpub/cks072

- Bostic, T. J., McGartland, R. D., & Hood, M. (2000). A validation of the subjective vitality scale using structural equation modeling. *Social Indicators Research, 52*, 313-324.
doi:10.1023/A:1007136110218
- Cacioppo, S., Capitanio, J. P., & Cacioppo, J. T. (2014). Toward a neurology of loneliness. *Psychological Bulletin, 140*(6), 1464–504. <https://doi.org/10.1037/a0037618>
- Chandola, T., Marmot, M., & Siegrist, J. (2007). Failed reciprocity in close social relationships and health: Findings from the Whitehall II study. *Journal of Psychosomatic Research, 63*(4), 403–411. <https://doi.org/10.1016/j.jpsychores.2007.07.012>
- Chasens, E. R., Sereika, S. M., Burke, L. E., Stollo, P. J., & Korytkowski, M. (2014). Sleep, health-related quality of life, and functional outcomes in adults with diabetes. *Applied Nursing Research: ANR, 27*(4), 237–41. <https://doi.org/10.1016/j.apnr.2014.02.006>
- Corrigan, P. W., & Calabrese, J. D. (2005). Strategies for assessing and diminishing self-stigma. In P. W. Corrigan (Ed.), *On the stigma of mental illness: Practical strategies for research and social change* (pp. 239-256). Washington, DC: American Psychological Association.
- Corrigan, P. W., Larson, J. E., & Rüsch, N. (2009). Self-stigma and the “why try” effect: impact on life goals and evidence-based practices. *World Psychiatry, 8*(2), 75–81. <https://doi.org/10.1002/j.2051-5545.2009.tb00218.x>
- Davidson, C. L., Wingate, L. R. R., Slish, M. L., & Rasmus, K. A. (2010). The great Black hope: Hope and its relation to suicide risk among African Americans. *Suicide and Life-Threatening Behavior, 40*, 170-180. doi:10.1521/suli.2010.40.2.170
- Drazic, Y. N. & Caltabiano, M. L. (2013). Chronic hepatitis B and C: Exploring perceived stigma, disease information, and health-related quality of life. *Nursing and Health Sciences, 15*, 172-178.
doi:10.1111/nhs.12009
- Eisenberger, N. I. (2013). Social ties and health: a social neuroscience perspective. *Current Opinion in Neurobiology, 23*(3), 407–413. <https://doi.org/10.1016/j.conb.2013.01.006>

- Freedenthal, S., Lamis, D. A., Osman, A., Kahlo, D., & Gutierrez, P. M. (2011). Evaluation of the psychometric properties of the Interpersonal Needs Questionnaire-12 in samples of men and women. *Journal of Clinical Psychology, 67*, 609-623. doi:10.1002/jclp.20782
- Frost, D. M. (2011). Social stigma and its consequences for the socially stigmatized. *Social and Personality Psychology Compass, 5*, 824-839. doi:10.1111/j.1751-9004.2011.00394.x
- Gabe, T. (2013). *Poverty in the United States: 2012*. (CRS Report No. RL33069). Washington DC: Library of Congress, Congressional Research Service. Retrieved January 20, 2014 from <https://www.fas.org/sgp/crs/misc/RL33069.pdf>.
- Goffman, E. (1963). *Stigma: Notes on the management of spoiled identity*. New York, Touchstone Books.
- Hann, M., & Reeves, D. (2008). The SF-36 scales are not accurately summarised by independent physical and mental component scores. *Quality of Life Research, 17*, 413-423. doi:10.1007/s11136-008-9310-0
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs, 76*, 408-420. doi:10.1080/03637750903310360
- Hayes, A. F. (2013). *An introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.
- Hays, R. D., & Morales, L. S. (2001). The RAND-36 measure of health-related quality of life. *Annals of Medicine, 33*, 350-357. doi:10.3109/07853890109002089
- Heijnders, M. & van der Meij, S. (2006). The fight against stigma: An overview of stigma-reduction strategies and interventions. *Psychology, Health & Medicine, 11*(3), 353-363. doi:10.1080/13548500600595327
- Herrmann, S., McKinnon, E., Hyland, N. B., Lalanne, C., Mallal, S., Nolan, D. et al. (2013). HIV-related stigma and physical symptoms have a persistent influence on health-related quality of life in Australians with HIV infection. *Health and Quality of Life Outcomes, 11*:56. doi:10.1186/1477-7525-11-56

- Hoebel, J., Kuntz, B., Müters, S., & Lampert, T. (2013). [Subjective social status and health-related quality of life among adults in Germany. Results from the German General Social Survey (ALLBUS 2010)]. *Gesundheitswesen (Bundesverband Der Ärzte Des Öffentlichen Gesundheitsdienstes (Germany))*, 75(10), 643–51. <https://doi.org/10.1055/s-0032-1333211>
- Huta, V., & Ryan, R. M. (2010). Pursuing pleasure or virtue: The differential and overlapping well-being benefits of hedonic and eudaimonic motives. *Journal of Happiness Studies*, 11, 735-762. doi:10.1007/s10902-009-9171-4
- Lam, C. L. K., Guo, V. Y., Wong, C. K. H., Yu, E. Y. T., & Fung, C. S. C. (2016). Poverty and health-related quality of life of people living in Hong Kong: comparison of individuals from low-income families and the general population. *Journal of Public Health*, 60(10). <https://doi.org/10.1093/pubmed/fdw046>
- Leung, J., Pachana, N. A., & McLaughlin, D. (2014). Social support and health-related quality of life in women with breast cancer: a longitudinal study. *Psycho-Oncology*, 23(9), 1014–1020. <https://doi.org/10.1002/pon.3523>
- Lillis, J., Levin, M. E. & Hayes, S. C. (2011). Exploring the relationship between body mass index and health-related quality of life: A pilot study of the impact of weight self-stigma and experiential avoidance. *Journal of Health Psychology*, 16(5), 722-727. doi:10.1177/1359105310388321
- Lim, Y., Chan, S. & Ko, Y. (2009). Stigma and health-related quality of life in Asian adults with epilepsy. *Epilepsy Research*, 87, 107-119. doi:10.1016/j.eplepsyres.2009.08.014
- Link, B. G., & Phelan, J. C. (2001). Conceptualizing stigma. *Annual Review of Sociology*, 27, 363-385. doi:10.1146/annurev.soc.27.1.363
- Lott, B. (2002). Cognitive and behavioral distancing from the poor. *American Psychologist*, 57(2), 100. doi:10.1037/0003-066X.57.2.100
- Luty, J., Umoh, O., & Nuamah, F. (2009). Effect of brief motivational interviewing on stigmatized attitudes towards mental illness. *Psychiatric Bulletin*, 33, 212-214. doi:10.1192/pb.bp.108.020925

- Macinnes, D.L., & Lewis, M. (2008). Evaluation of a short group programme to reduce self stigma in people with serious and enduring mental health problems. *Journal of Psychiatric and Mental Health Nursing*, 15, 59–65. doi:10.1111/j.1365-850.2007.01212.x
- Markland, D., Ryan, R. M., Tobin, V. J., & Rollnick, S. (2005). Motivational interviewing and self-determination theory. *Journal of Social and Clinical Psychology*, 24, 811-831. doi:10.1521/jscp.2005.24.6.811
- McHorney, C. A. (1999). Health status assessment methods for adults: Past accomplishments and future challenges. *Annual Review of Public Health*, 20, 309-335. doi:10.1146/annurev.publhealth.20.1.309
- McKenzie, K., Whitley, R., & Weich, S. (2002). Social capital and mental health. *Br.J.Psychiatry*, 181(4), 280–283. Retrieved from <http://bjp.rcpsych.org/content/181/4/280.short>
- Mickelson, K. D. (2001). Perceived stigma, social support, and depression. *Personality and Social Psychology Bulletin*, 27, 1046-1056. doi:10.1177/0146167201278011
- Mickelson, K. D. & Williams, S. L. (2008). Perceived stigma of poverty and depression: Examination of interpersonal and intrapersonal mediators. *Journal of Social and Clinical Psychology*, 27, 903-930. doi:10.1521/jscp.2008.27.9.903
- Mulvaney, S. A., Hood, K. K., Schlundt, D. G., Osborn, C. Y., Johnson, K. B., Rothman, R. L., & Wallston, K. A. (2011). Development and initial validation of the barriers to diabetes adherence measure for adolescents. *Diabetes Research and Clinical Practice*, 94, 77-83. doi:10.1016/j.diabres.2011.06.010
- Muraven, M. & Rosman, H. (2007). Lack of autonomy and self-control: Performance contingent rewards lead to greater depletion. *Motivation and Emotion*, 31, 322-330. doi:10.1007/s11031-007-9073-x

- Nummela, O., Seppänen, M., & Uutela, A. (2011). The effect of loneliness and change in loneliness on self-rated health (SRH): A longitudinal study among aging people. *Archives of Gerontology and Geriatrics*, *53*(2), 163–167. <https://doi.org/10.1016/j.archger.2010.10.023>
- Perissinotto, C. M., Stijacic Cenzer, I., & Covinsky, K. E. (2012). Loneliness in Older Persons. *Archives of Internal Medicine*, *172*(14), 947–954. <https://doi.org/10.1001/archinternmed.2012.1993>
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, *40*, 879-891. doi:10.3758/BRM.40.3.879
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, *42*, 185-227. doi:10.1080/00273170701341316
- Rasmussen, K. A., & Wingate, L. R. R. (2011). The role of optimism in the Interpersonal-Psychological Theory of Suicidal Behavior. *Suicide and Life-Threatening Behavior*, *41*, 137-148. doi:10.1111/j.1943-278X.2011.00022.x
- Razvi, S., Ingoe, L. E., McMillan, C. V., & Weaver, J. U. (2005). Health status in patients with sub-clinical hypothyroidism. *European Journal of Endocrinology*, *152*, 713-717. doi:10.1530/eje.1.01907
- Reutter, L. I., Stewart, M. J., Veenstra, G., Love, R., Raphael, D., & Makwarimba, E. (2009). “Who do they think we are, anyway?”: Perceptions of and responses to poverty stigma. *Qualitative Health Research*, *19*, 297. doi:10.1177/1049732308330246
- Richman, L. S. & Leary, M. R. (2009). Reactions to discrimination, stigmatization, ostracism, and other forms of interpersonal rejection: A multimotive model. *Psychological Review*, *116*(2), 365-383. doi:10.1037/a0015250

- Roeloffs, C., Sherbourne, C., Unützer, J., Fink, A., Tang, L., & Wells, K. B. (2003). Stigma and depression among primary care patients. *General Hospital Psychiatry, 25*(5), 311-315. doi:10.1016/S0163-8343(03)00066-5
- Rouse, P. C., Ntoumanis, N., Duda, J. L., Jolly, K., & Williams, G. C. (2011). In the beginning: Role of autonomy support on the motivation, mental health and intentions of participants entering an exercise referral scheme. *Psychology & Health, 26*, 729-749. doi:10.1080/08870446.2010.492454
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68-78. doi:10.1037/0003-066X.55.1.68
- Ryan, R. M., & Frederick, C. (1997). On energy, personality, and health: Subjective vitality as a dynamic reflection of well-being. *Journal of Personality, 65*, 529-565. doi:10.1111/j.1467-6494.1997.tb00326.x
- Ryan, R. M., LaGuardia, J. G., & Rawsthorne, L. J. (2005). Self-complexity and the authenticity of self-aspects: Effects on well being and resilience to stressful events. *North American Journal of Psychology, 7*, 431-448. Retrieved October 18, 2011 from <http://najp.8m.com/> or <http://www.selfdeterminationtheory.org/>
- Sirey, J.A., Bruce, M. L., Alexopoulos, G. S., Perlick, D.A., Friedman, S. J., & Meyers, B. S. (2001). Stigma as a barrier to recovery: Perceived stigma and patient-rated severity of illness as predictors of antidepressant drug adherence. *Psychiatric Services (Washington, D.C.), 52*(12), 1615–1620. <https://doi.org/10.1176/appi.ps.52.12.1615>
- Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2011). False-positive psychology. *Psychological Science, 22*(11), 1359-1366. doi:10.1177/0956797611417632
- Sobel, M.E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. In S. Leinhardt (Ed.), *Sociological methodology* (pp. 290-312). San Francisco: Jossey-Bass.

- Świtaj, P., Grygiel, P., Anczewska, M., & Wciórka, J. (2014). Loneliness mediates the relationship between internalised stigma and depression among patients with psychotic disorders. *International Journal of Social Psychiatry, 60*(8), 733–740.
<https://doi.org/10.1177/0020764013513442>
- Tucker, G., Adams, R. & Wilson, D. (2013). Observed agreement problems between sub-scales and summary components of the SF-36 version 2 – an alternative scoring method can correct the problem. *PLoS One, 8*(4): e691191. doi:10.1371/journal.pone.0061191
- Uysal, A., Lin, H. L., Knee, C. R. (2010). The role of need satisfaction in self-concealment and well-being. *Personality and Social Psychology Bulletin, 36*(2), 187-199.
doi:10.1177/0146167209354518
- Van Orden, K. A., Cukrowicz, K. C., Witte, T. K., & Joiner Jr., T. E. (2012). Thwarted belongingness and perceived burdensomeness: Construct validity and psychometric properties of the Interpersonal Needs Questionnaire. *Psychological Assessment, 24*, 197-215. doi:10.1037/a0025358
- Van Orden, K. A., Witte, T. K., Gordon, K. H., Bender, T. W., & Joiner, T. E., Jr. (2008). Suicidal desire and the capability for suicide: Tests of the Interpersonal-Psychological Theory of Suicidal Behavior among adults. *Journal of Consulting and Clinical Psychology, 76*(1), 72.
doi:10.1037/0022-006X.76.1.72
- Viruell-Fuentes, E. A., Miranda, P. Y., & Abdulrahim, S. (2012). More than culture: Structural racism, intersectionality theory, and immigrant health. *Social Science and Medicine, 75*(12), 2099-2106.
- Ware Jr. J. E. (2004). SF-36 health survey update. Retrieved February 2, 2012 from <http://www.sf-36.org/tools/sf36.shtml>.
- Ware Jr., J. E., & Kosinski, M. (2001). Interpreting SF-36 summary health measures: A response. *Quality of Life Research, 10*, 405-413. doi:10.1023/A:1012588218728
- Ware Jr., J. E., Kosinski, M., & Dewey, J. E.. (2000). *How to score version two of the SF-36 health survey*. Lincoln, RI: Quality Metric.

- Weeks, W. B., Kazis, L. E., Shen, Y., Cong, Z., Ren, X. S., Miller, D., ... Perlin, J. B. (2004). Differences in health-related quality of life in rural and urban veterans. *American Journal of Public Health, 94*(10), 1762–7. <https://doi.org/10.2105/AJPH.94.10.1762>
- Williams, S. L., & Mickelson, K. D. (2008). A paradox of support seeking and rejection among the stigmatized. *Personal Relationships, 15*, 493-509. doi:10.1111/j.1475-6811.2008.00212.x
- Williams, W. R. (2009). Struggling with poverty: Implications for theory and policy of increasing research on social class-based stigma. *Analyses of Social Issues and Public Policy, 9*(1), 37-56. doi:10.1111/j.1530-2415.2009.01184.x
- Wolf, L. D., & Davis, M. C. (2014). Loneliness, daily pain, and perceptions of interpersonal events in adults with fibromyalgia. *Health Psychology, 33*(9), 929–37. <https://doi.org/10.1037/hea0000059>
- Wong, Y. J., Koo, K., Tran, K. K., Chiu, Y. C., & Mok, Y. (2011). Asian American college students' suicide ideation: A mixed-methods study. *Journal of Counseling Psychology, 58*, 197. doi:dx.doi.org/10.1037/a0023040
- Yazdi-Ravandi, S., Taslimi, Z., Jamshidian, N., Saberi, H., Shams, J., & Haghparast, A. (2013). Prediction of quality of life by self-efficacy, pain intensity and pain duration in patient with pain disorders. *Basic and Clinical Neuroscience, 4*(2), 117–124. Retrieved from <http://bcn.iums.ac.ir/article-1-358-en.html>

Table 1

Levels of Demographic, Predictor, and Criterion Variables by Gender and Total Sample

Variable	Male		Female		Total Sample	
	M	SD	M	SD	M	SD
Internalized Stigma	3.25 _a	1.05	3.73 _b	.87	3.59	.94
Experienced Stigma	2.72	1.01	2.96	.96	2.87	.97
Belongingness	2.62	1.54	2.57	1.25	2.58	1.33
Physical Components Summary	51.04 _a	17.74	42.28 _b	19.43	44.82	19.27
Mental Components Summary	50.82 _a	20.97	38.78 _b	18.48	42.27	19.90
Age	41.28	11.43	42.35	13.40	42.04	12.81
Income	2.21	.88	2.02	1.07	2.08	1.02

Note: a and b are significantly different at $p < .05$. Physical and Mental Components Summary = Short-Form 36, version 2. Belongingness = Interpersonal Needs Questionnaire. Internalized Stigma and Experienced Stigma = Perceived Stigma of Financial Situation Scale. Income is based on 1 = “\$0 - 9,999,” 2 = “\$10,000 - 19,999,” 3 = “\$20,000 - 29,999,” etc.

Table 2.

Bivariate correlations of the study variables

	Experienced Stigma	Belonging	Physical HRQL	Mental HRQL	Gender	Age	Income
Internalized Stigma	.54 [‡]	-.35 [‡]	-.38 [‡]	-.50 [‡]	.23*	-.04	-.30 [†]
Experienced Stigma	-	-.43 [‡]	-.40 [‡]	-.45 [‡]	.10	-.06	-.19
Belonging	-	-	.25*	.58 [‡]	.02	.18	.24*
Physical HRQL	-	-	-	.68 [‡]	-.21*	-.28 [†]	.07
Mental HRQL	-	-	-	-	-.28 [†]	.04	.35 [‡]
Gender	-	-	-	-	-	.04	-.08
Age	-	-	-	-	-	-	.17

Note: HRQL = Health related Quality of life; * $p < .05$, [†] $p < .01$, [‡] $p < .001$.

Table 3.

Hierarchical Regression Analyses Testing the Contribution of Experienced and Internalized Financial Stigma to Physical and Mental Health-Related Quality of Life (HRQL), After Accounting for Sociodemographic Factors.

Outcome	Physical HRQL		Mental HRQL	
	Step 1 β	Step 2 β	Step 1 β	Step 2 β
Predictor				
Age	-.30**	-.31**	-.01	-.02
Gender (male = 1, female = 2)	-.17	-.10	-.24*	-.17 ^a
Income	.11	.00	.33**	.21*
Financial stigma - experienced	---	-.20	---	-.25*
Financial stigma - internalized	---	-.30**	---	-.26**
	Step 1	Step 2	Step 1	Step 2
R^2	.13	.31	.18	.32
F	4.72**	8.11**	6.77**	10.32**
ΔR^2	.13	.18	.18	.18
ΔF	4.72	11.60**	6.77**	13.05**

Note: The degrees of freedom (df) for the F value vary according to the number of predictors entered in each step: two predictors, first step, df = (3, 96); second step with five predictors, df = (5, 94); ^a $p = .057$ * $p < .05$, ** $p < .01$.

Table 4.

Summary of Mediation Model Linking Experiential Financial Stigma (EFS) to Physical Health-Related Quality of Life (PHQL) and Mental Health-Related Quality of Life (MHQL) through Belongingness (BL), Controlling for Age, Gender, and Income.

Effect	<i>B</i> (<i>SE</i>)	CI	Model <i>R</i> ²	<i>F</i> (<i>df</i>)
EFS → BL	.54 (.11)	[.31, .77]		
BL → PHQL	-.21 (.15)	[-.52, .09]		
EFS → BL → PHQL	-.12 (.08)	[-.32, .02]		
Completely standardized indirect effect of EFS on PHQL	-.06 (.04)	[-.17, .01]		
Direct effect of EFS on PHQL	-.66 (.20)	[-1.06, -.26]		
Total effect of EFS on PHQL	-.77 (.18)	[-1.12, -.42]	.28	8.40** (4, 95)
EFS → BL	.54 (.11)	[.31, .77]		
BL → MHQL	-.67 (.15)	[-.99, -.37]		
EFS → BL → MHQL	-.37 (.11)	[-.63, -.19]		
Completely standardized indirect effect of EFS on MHQL	-.20 (.05)	[-.32, -.11]		
Direct effect of EFS on MHQL	-.43 (.12)	[-.67, -.18]		
Total effect of EFS on MHQL	-.79 (.13)	[-1.05, -.54]	.32	15.89** (4, 95)

Note: Bias corrected confidence intervals (CI) were used to calculate the indirect effects; ***p* < .001.

Table 5.

Summary of Mediation Model Linking Internalized Financial Stigma (IFS) to Physical Health-Related Quality of Life (PHQL) and Mental Health-Related Quality of Life (MHQL) through Belongingness (BL), Controlling for Age, Gender, and Income.

Effect	<i>B (SE)</i>	CI	Model R^2	<i>F (df)</i>
IFS → BL	.49 (.13)	[.23, .76]		
BL → PHQL	-.19 (.16)	[-.48, .10]		
IFS → BL → PHQL	-.09 (.08)	[-.28, .04]		
Completely standardized indirect effect of IFS on PHQL	-.05 (.04)	[-.13, .02]		
Direct effect of IFS on PHQL	-.68 (.20)	[-1.09, -.40]		
Total effect of IFS on PHQL	-.78 (.19)	[-1.16, -.40]	.14	16.39** (4, 95)
IFS → BL	.45 (.14)	[.18, .73]		
BL → MHQL	-.70 (.15)	[-.99, -.40]		
IFS → BL → MHQL	-.32 (.11)	[-.58, -.14]		
Completely standardized indirect effect of IFS on MHQL	-.16 (.05)	[-.27, -.07]		
Direct effect of IFS on MHQL	-.51 (.19)	[-.88, -.13]		
Total effect of IFS on MHQL	-.82 (.19)	[-1.20, -.45]	.31	12.38** (4, 95)

Note: Bias corrected confidence intervals (CI) were used to calculate the indirect effects. ** $p < .001$.

Figure 1: Proposed mediation model of the relations of financial stigma to health related quality of life (HRQL) through belongingness, controlling for demographic covariates.

