A Culture of Fear, Embodied: Do gendered patterns of fear and avoidance contribute to gender disparities in mental health?

Abstract

This study examines the extent to which experiences of fear, and the associated coping strategy of avoidance behavior, contribute to gender disparities in mental health. Analyzing data from the first wave (2009-2010) of *Understanding Society*: the UK Household Longitudinal Study (unweighted N=7,988), we ask: (1) To what extent does gender shape the likelihood of experiencing fear, and of engaging in avoidance behavior? (2) How and to what extent are fear and avoidance associated with men's and women's mental health? and (3) To what extent do experiences of fear and avoidance behavior help account for the disparity in men's and women's mental health? Situating our analyses within sociological theories of emotion and gender as a social structure, we show that women experience significantly more fear than men, and are more likely to avoid places. Our results also show that feelings of fear are significantly associated with poor (self-assessed) mental health, and explain 17% of the gender gap in mental health. These results underscore the importance of attending to socially constructed emotion norms in health research, as well as in efforts to address gender inequality.

Key words: gender; emotions; mental health; health disparities; United Kingdom.

Introduction

A substantial body of research shows that, around the world, women suffer from poorer mental health compared to men. Sociological research highlights the role of emotions in shaping mental health disparities (Simon 2007, 2014). Structural theories (e.g. Kemper 1978, 1991) argue that inequalities in power and status produce differences in emotional experiences: individuals with higher levels of status and power, such as men, tend to experience more positive emotions, and those with lower status and power, such as women, tend to experience more negative emotions. Cultural theories argue that, beyond differences in status and power, socially constructed emotion norms promote differences in the types of feelings individuals experience and how these feelings are expressed (Hochschild 1979; Smith-Lovin 1995; Thoits 1989). Both theories argue that, when repeated across varied interactions and domains, feelings become enduring emotional states or moods, and can contribute to disparities in mental health.

Gendered patterns of fear provide a perfect – though severely understudied – case in point. A handful of studies show that, in the United Kingdom (e.g., Stafford et al 2007), the United States (e.g., Cobbina et al 2008; Macmillan et al 2000), Australia (Bastomski and Smith 2017) and elsewhere, women report experiencing fear at higher rates than men. As discussed at length below, existing research offers numerous explanations, both structural and cultural, as to why this might be. What remains largely unaddressed, however, is whether experiences of fear are associated with poor mental health. And, if so, to what extent does the uneven distribution of fear drive gender disparities in mental health?

Research on the sociology of emotions, gender, and health disparities has burgeoned in recent decades, but few studies have integrated the insights from all three fields. As Simon and Nath (2004, 1141) note, "there is surprisingly little sociological research that compares

men's and women's everyday feelings and expressive behavior." To our knowledge, no existing population-based study has examined the extent to which experiences of fear, and/or the associated coping strategy of avoidance behavior, are associated with mental health, and none have assessed the extent to which fear and avoidance contribute to gendered mental health disparities.

To address these gaps, we ask three main questions: (1) To what extent does gender shape the likelihood of experiencing fear and of engaging in avoidance behavior? (2) How and to what extent are fear and avoidance associated with men's and women's mental health? and (3) To what extent do experiences of fear and avoidance behavior help account for the disparity in men's and women's mental health? To answer these questions, we analyze data from *Understanding Society*: the UK Household Longitudinal Study, a population-based study of adults aged 16 and older living in the United Kingdom. Before doing so, we situate our analyses within the context of sociological research on emotions, mental health, and gender.

Background

Social Status & Emotions

Research on the sociology of emotions shows that low-status groups experience more negative emotions compared with high-status groups. This relationship holds true across a number of social hierarchies, including, in many contexts, gender, socio-economic status, and age, though racial-ethnic patterns of emotions in the US are a notable exception (Lively and Heise 2004; Simon and Nath 2004). Research on gender and emotions from the UK, US, Australia and other wealthy Western countries shows that women tend to experience fear, anxiety, anger and sadness at higher rates than men, with men experiencing feelings of both

calmness and excitement at higher rates than women (Mirowsky and Ross 1995; Simon and Nath 2004).

Two main theories seek to explain gendered patterns in experiences and expressions of emotions. Structural theories (Kemper 1978, 1991) view gender differences in emotions as resulting largely from differences in status and power. In his "social relational matrix of distressful emotions," Kemper (1978) theorizes fear as an emotion associated specifically with experienced and/or perceived deficits of power.

Theories of emotional management (Hochschild 1979; Smith-Lovin 1995; Thoits 1989) centralize cultural emotion norms. In her pioneering work, Hochschild (1979, 1981, 1989) argued that cultural norms shape what emotions people feel in their everyday lives, as well as in particular situations. She argued that socially constructed "feeling rules" and "expression rules" dictate what emotions individuals should experience, under what circumstances, and how these feelings should be expressed. Existing research shows that, for example, girls are often socialized to express fear, and boys to restrain expressions of fear (Schrock and Knop 2014). When people's emotions and emotional expressions deviate from cultural norms, they engage in emotion management, expression management, or a combination of the two, in order to bring themselves more in-line with prevailing norms. To the extent that women and men report differing levels of particular types of emotions, this framework suggests that gendered cultural norms play a significant role, above and beyond structural factors, in driving these differences.

While some (e.g., Hill and Needham 2013) have downplayed the role of emotions in shaping health, sociological research suggests that feelings matter for both health-related behaviors and health outcomes. Day-to-day emotions accumulate and have potential consequences for both mental and physical health. Simon and Lively (2010) show, for

example, that women in the US are more likely to experience anger than are men, and that this excess of anger contributes to women's increased likelihood of depression. Studies focusing on gendered patterns of fear and its consequences for health are scarce, but Stafford et al (2007) found that, among older British civil servants (aged 50-75), women expressed significantly greater fear of crime than men. They found that fear of crime was associated with decreased physical and mental health, among both men and women.

The Stress Process

Developed by Pearlin et al (1981), the stress process paradigm argues that social stressors, psychosocial resources, and the complex interplay among them are fundamental for understanding mental health. As described by Wheaton (1994), social stressors can occur across multiple levels of social life, and can include acute events, chronic stressors, as well as less frequently studied "anticipated" stressors that may not have yet occurred (Pearlin and Bierman 2013). Within this broad framework are two more specific hypotheses. The "exposure hypothesis" posits that low-status groups are more frequently exposed to the social stressors that bring about poor health (e.g., living in poverty, the stress associated with balancing work and family commitments). The "vulnerability hypothesis" expands upon this, and suggests that low-status groups may suffer worse health than high-status groups in part because they have fewer psychosocial resources for handling the stresses to which they are exposed (Thoits 1995).

Psychosocial resources refer to the qualities, characteristics, and personal resources that lessen the negative effect of stressors on mental health (Pearlin and Bierman 2013). Coping *resources*, such as social support networks and psychological resources, including sense of mastery over life and self-esteem, influence how people respond to stressful

events (Pearlin and Schooler 1978; Thoits 1995). While existing research suggests that men and women hold similar levels of social support, studies suggest that women's sense of mastery and self-esteem are, on average, lower than that of men (Thoits 1995). Coping *strategies* refer to the behavioral and cognitive processes that individuals use to deal with stressful events that have already occurred, or which they believe may occur in the future (Lazarus and Folkman 1984; Thoits 2010). Numerous studies demonstrate that men and women tend to employ different coping strategies, with men more likely to engage in stoic, and problem-focused responses, and women more likely to seek social support and express their feelings (Green et al 2010).

Thoits (2010) further subdivides coping strategies into emotion-focused strategies and problem-focused strategies, with avoidance traditionally understood as an emotion-focused strategy. A person facing a stressful situation or event might avoid thinking about it, in order to reduce experiencing negative emotions. Avoidance behavior might be more complicated, though. In some cases, avoidance may work as a problem-focused strategy: those who are fearful of potential mistreatment may actively avoid particular places in order to minimize the likelihood of encountering certain people or potential situations. In other cases, avoidance behavior might act as an emotion-focused strategy. Individuals might avoid specific places – for example, places where they have previously been victimized – in order to avoid "triggering" the negative feelings associated with that place. To the extent that avoidance behavior is an effective strategy, actively avoiding particular places and the individuals associated with them may be associated with decreased experiences of fear, and positive mental health outcomes. On the other hand, Pearlin and Bierman (2013) note that avoidance is, in some cases, associated with increased distress. As explained below, avoiding

places may also reduce a range of healthy behaviors that are positively associated with mental health.

In brief, the stress process paradigm positions the relationship among social stressors, psychosocial resources, and mental health outcomes within the broader context of social and economic inequalities (Pearlin 1989). Combined with research in the sociology of emotions, these theories argue that, in societies marked by significant social inequality, low-status groups face higher levels of social stressors, have fewer psychosocial resources for dealing with these stressors, experience higher rates of negative emotions and lower rates of positive emotions. While social groups differ in how emotions are expressed, and the strategies they use to cope, the overall effect of disparately distributed stressors, emotions, and resources is often worse mental health for low-status groups.

Fear within the Gender Structure

Though feelings of fear have been understudied in both the sociology of emotions and the sociology of mental health, research in the sociology of gender calls attention to the importance of fear for maintaining gender inequality. Risman (2004, 2017) theorizes gender as a social structure, which includes both material and cultural domains, and organizes social life across all levels of society. As described more below, gendered patterns of fear emerge from both domains and all levels of social life. While fear is a central aspect of the gender structure across numerous cultural contexts, here we focus specifically on the contemporary United Kingdom.

Walby (1990) describes post-WWII Britain as a "public patriarchy," where women are able to participate more in the public sphere (e.g., in the workforce and as citizens) relative to earlier times, but are nonetheless systematically subordinated. The material

aspects of this subordination are reflected in persistent inequalities in the workplace, educational institutions, in patterns of interpersonal violence, and across numerous other life domains. In the UK, the median hourly earnings of women working full-time is 9.1% less than the median hourly earnings of full-time men workers; moreover, compared to men, women are more than three times as likely to be employed on a part-time basis (Smith 2017). In the aggregate, the earnings of women workers (full- and part-time) are 33% less than those of men (Office for National Statistics 2017).

Gender inequality is pronounced in other domains as well. Recent research on "lad culture" within UK higher education institutions, for example, suggests that sexual harassment and sexism more generally are rampant (Dempster 2009; Phipps and Young 2015). A recent study by Horvath et al (2012) found that misogyny had become so normalized in "lad culture" that participants in their study could not reliably differentiate between statements originating from "lad magazines" and those of convicted rapists. While generalizable data on the extent of gendered violence in the UK is limited, findings from the 2017 Crime Survey for England and Wales indicate that 9 percent of women, and 3 percent of men ages 16 to 19 had experienced sexual assault (including attempted assault) in the past year (Office for National Statistics 2018). In most cases, assailants were either intimate partners or acquaintances of the victim.

The relatively low likelihood of sexual assault by a stranger coexists with a strong cultural narrative of stranger rape, as well as a cultural discourse that holds women responsible for avoiding "dangerous situations." While sexual violence is experienced by people of all genders, data suggests that the prospect of sexual violence infuses the background of everyday life for women more so than for men – particularly, in comparison to privileged men. The 2016 Crime Survey of England and Wales found that 12% of women

surveyed were "worried" about being raped, compared to 4% of men; women were also more likely to be worried about being attacked by a stranger (11% vs 5%), or robbed (11% vs 7%) (Office for National Statistics 2016).

The prospect of violence – sexualized or otherwise – can lead women to adopt a number of strategies, ranging from carrying weapons (Carlson 2015), to avoiding crowded spaces and/or isolated spaces (Green and Singleton 2006), and to avoiding particular modes of transportation and public spaces more generally (Bastomski and Smith 2017; Cobbina et al 2008; Green and Singleton 2006). Though not structurally deterministic – women engage in risky behaviors, both voluntarily and involuntarily (Chan and Rigakos 2002) – the network of interrelated fears and avoidance behaviors limits women's life chances, constrains women's physical movement, and potentially limits their opportunities to engage in a range of healthy activities (Jackson and Stafford 2009). As Radford and Stanko (1991) argue, a gendered culture of fear in the UK and elsewhere has become so normative that "rather than take safety for granted" many women "build strategies of precaution into their everyday lives." Avoiding places and people deemed "dangerous" is an example of these strategies.

Sociological gender research argues that gendered emotional norms have negative consequences for men too (Connell 2005; Schrock and Knop 2014). Feeling and expressing fear is at odds with hegemonic masculinity, and the process of managing feelings, and the expression of these feelings, can bring about what Freund (1990, 1998) describes as "dramaturgical stress" – an additional layer of distress stemming from efforts to construct and maintain boundaries, manage the flow of information, and to redefine one's feelings. The self-regulation of emotions and behaviors requires significant energy, and is particularly stress-inducing when there is a discrepancy between one's sense of self and the feelings one experiences and/or displays (Freund 1998; Hochschild 2012). Social psychological theories

of identity make a similar argument: identities are socially constructed meaning systems that individuals apply to themselves (Burke and Stets 2009), and individuals "seek to have their identity meanings or identity standard verified within and across situations" (Stets 2012). Situations and interactions which verify individuals' sense of self generate positive emotions; those that challenge individuals' sense of self result in negative emotions. To the extent that feelings of fear and avoidance behaviors are at odds with dominant notions of masculinity, these may also take a significant toll on men's mental health.

Race and Ethnicity

Scholars of intersectionality view gender as a system of inequality that works with and through other forms of inequality in contextually specific ways (Crenshaw 1991; Hill Collins 2000; Knapp 2005). More recent scholarship considers the extent to which legacies of colonialism and persistent global relations of domination shape the socio-cultural, emotional, and material lives of all individuals (Connell 2005; Messerschmidt et al 2018). Thus, an analysis of gendered emotional norms, and their relationship to health outcomes requires a simultaneous consideration of race, ethnicity and colonialism.

At the most basic level, people of all genders are subject to racialized and xenophobic violence, in addition to gendered violence, which provides a reason for increased fear and avoidance behavior (Author 2015; Cobbina et al 2008; Day 1999; Green and Singleton 2006). Focusing on gender as it intersects with other systems of inequality also highlights cultural differences in involvement in public life. Patterns of labor force participation, for example, are structured by gender as well as race, ethnicity, and class. Particular to the UK context, part-time work is more common among white British- than Caribbean-origin women, for instance, whereas female labor force participation rates among these two groups

are higher than among most South Asian origin groups (Khoudja and Platt 2018). This is but one example of the ways that the degree to which women want and/or need to participate in public life, and the ways in which this participation takes place, potentially exposes women to different levels of risk and fear.

Intersectional research on gender and emotions is lacking (Simon 2014). Insofar as emotions are structured by cultural norms, however, gendered patterns of fear and avoidance likely vary to some extent by race, ethnicity, and other cultural factors. On the other hand, while the particulars of the gender regimes (e.g., institutional arrangements, practices, and ideologies that sustain gender inequality) differ across cultures and contexts (Connell 2005), women occupy a lower status position in most contemporary societies, and this may generate cross-cultural similarities in gendered patterns of fear.

Building on the research described above, the present study investigates gendered patterns of fear and avoidance, and the extent to which these cultural aspects of gender are associated with poor mental health, and contribute to gendered mental health disparities.

Hypotheses

We hypothesize that women will report higher levels of both fear and avoidance behavior than men (H1), and that due to the pervasive gendered culture of fear, these disparities will remain when controlling for differences in socio-economic status (H2). We expect that experiences of fear will be associated with poor mental health for both men and women (H3). Avoidance may take a direct negative toll on mental health (H4a) but, if it is an effective coping strategy, may attenuate the relationship between fear and poor mental health (H4b). Finally, given the pervasiveness of cultural discourse linking femininity with fear, which is further supported by material aspects of the gender structure, we expect gender differences

in fear to contribute significantly to the gender gap in mental health (H5).

Data and methods

Data

We use data from *Understanding Society*: the UK Household Longitudinal Study (UKHLS) (Institute for Social and Economic Research et al 2017; Knies 2017). This survey started in 2009 with a nationally representative sample of around 26,000 UK households (referred to as the General Population Sample, GPS) and an Ethnic Minority Boost Sample (EMBS) of around 4,000 households, each of which included at least one person from an ethnic minority background. All adult (age 16+) household members were eligible for interviews every year, where they were asked about different aspects of their lives. A sub-sample of these respondents was eligible for an extra five minutes of questions, which included our measures of fear, avoidance and harassment. This sub-sample, referred to in the survey documentation as the Extra Five Minutes Sample, comprised the EMBS, a comparison sample of 500 households randomly selected from the GPS and ethnic minorities in the GPS living in low ethnic minority concentration areas.[1]

Our sample (unweighted N=7,988) is restricted to those adults in the Extra Five Minutes Sample, with missing data deleted list-wise. While multiple waves of data are available, thus allowing the possibility of applying longitudinal modeling, we limit our analyses to Wave 1. This restriction is due to the substantial attrition rates in the number of

[1] The EMBS was drawn from ethnic minority concentration areas where 80% of UK's five major ethnic minority populations live. Without including the third component of the Extra Five Minutes sample, results based on this sample would not have been representative, as they would be biased in favor of ethnic minorities living in high ethnic minority concentration areas.

respondents, particularly those who were in the Extra Five Minutes Sample, as well as differences in mode of interview in our main dependent variable across waves.

Variables

We measure mental health using the well-established and cross-nationally validated (Gandek et al 1998) SF-12 Mental Health Composite scale scores. The SF-12 is a multipurpose short form survey with 12 questions, derived from the SF-36 Health Survey (Ware et al 1996). The SF-12 Mental Health is weighted and summed to provide a Mental Health Composite Scale (MCS) score. It ranges from 0 (representing worse mental health) to 100 (indicating good mental health); further details on question items, weighting and summing may be found in Ware et al (2001).

Respondents' gender status is assessed with a dummy variable, corresponding to respondents' self-described gender – though we note here that the only options were "male" and "female." Our measures of feelings of fear and avoidance behavior come from a multi-part survey question. Respondents were handed a showcard listing numerous specific locations (at school, college or work; at or around a bus or train station; in a taxi; public buildings such as shopping centers, shops or pubs, outside on the street, in parks or other public places; at home; none of the above; other places). They were then asked, "In the last 12 months, have you…" "…avoided going into or being [in any of these places]?" and "In the last 12 months, have you felt unsafe going into or being [in any of these places]?" Respondents who indicated that they had felt unsafe within or had avoided any of these places in the previous 12 months are coded 1 (otherwise, 0).

Given the importance of power and status in structural theories of emotion, we include two indicators of socio-economic status. Education is assessed by comparing three groups: those with no educational qualifications beyond vocational training (the reference

group), those with non-degree qualifications (GCSE, A-level, O-levels or their equivalents and other diplomas) and those with a university degree or higher. We also include a series of dummy variables corresponding to respondents' quartile of gross equivalized household income. Gross household income is provided by the data providers, who imputed missing values. To adjust for differences in household size, we weighted the gross household income by the number of adults and children in the household using the OECD modified equivalence scale and then decomposed the equivalized gross household income into four quartiles (households with the lowest 25% income, 25-50%, 50-75% and 75+%).

We include numerous control variables. Respondents' age is measured as a series of 10-year intervals. We compare three ethnic groups: white majority born in the UK (reference), ethnic minorities born in the UK (2nd generation and higher), and ethnic minorities born outside the UK (first generation). Our preliminary analyses investigated potential differences across more specific ethnic groups, but few emerged. These fewer categories are sufficient for this analysis as there are known differences in mental health and wellbeing between these groups (Author 2015; Author 2016). We control for marital status via a series of dummy variables: single or never married (the reference group); married; in non-marital cohabiting partnership; and those separated, divorced, or widowed. We also include a series of dummy variables representing respondents' main activity status: whether the person was employed full-time (including self-employed) (reference); employed part-time; unemployed; retired or other (out of the labor force as the person was taking care of the family; a full-time student; or in other unpaid jobs or government training program). A variable indicating the number of children in the household is also included. When analyzing mental health, we further control for whether the respondent belongs to a religion.

Finally, we include two variables assessing respondents' recent experiences with mistreatment in the various places described above. When respondents were handed the showcard and asked about their feelings of fear and avoidance behaviors, they were also asked whether they had been "insulted, called names, threatened our shouted at" in each of these places, and whether they had been physically attacked. Including these two variables in our analyses allows us to clarify the relationship between fear and mental health, controlling for recent experiences of harassment. These measures are blunt and do not capture the full range or intensity of mistreatment respondents may have encountered; we believe they strengthen the analyses nonetheless.

Analyses

Our analyses unfold in four parts. After presenting the descriptive statistics for all variables, we first use multivariate logit regression analyses to test whether gender is associated with feelings of fear and avoidance behavior, given the dichotomous nature of these two dependent variables. While these logit models test whether gender remains associated with fear and avoidance behavior, after educational attainment, household income and other predictors are controlled for, our next set of models investigate the extent to which the gender effect on either fear or avoidance is mediated by these two indicators of socio-economic status. We assess mediation via the KHB method (Breen et al 2013), which estimates the indirect effect of gender on both fear and avoidance behavior (i.e., the effect that is potentially mediated by educational attainment and household income), as well as the direct or unmediated effect of gender on the dependent variables. We then use multivariate ordinary least squares regression to test the association between feelings of fear and avoidance behavior with mental health, since the MCS score ranges on a continuous scale from 0-100,

and resembles a Normal distribution. In the last portion of our analyses, we estimate separate mental health models for men and women and use Oaxaca-Blinder decomposition (Blinder 1973; Oaxaca 1973) to show what proportion of the gender difference in mental health is explained by the gender difference in fear, as well as the gender difference in the association between fear and mental health. To account for unequal selection probability and non-random attrition, we estimate all models using the individual weights (provided with the data) designed for the Extra Five Minutes Sample. We also use adjusted standard errors to account for the clustered and stratified sample design.

[Table 1 here]

Results

Table 1 presents the weighted descriptive statistics for all the variables included in the analyses. As shown, women constitute 51% percent of the sample, and approximately 86% of men and women are whites born in the UK. Women are significantly less likely to be employed full time and are also over-represented in the lower two income quartiles. Women are significantly more likely to report having experienced fear in the past 12 months, and are also more likely to report having avoided places. Men and women reported similar levels of verbal and physical assault, though we note again that our measures do not speak directly to the intensity or level of threat experienced during these assaults. The mean score for women on the SF-12 score of mental health was 48.9 – significantly lower than that of men's score of 51.6.

[Table 2 here]

Table 2 shows the results from logit regression analyses examining the factors associated with experiencing fear. Model 1 includes basic socio-demographic characteristics, including age, marital status, employment status, and number of children in the household,

along with respondents' gender, and shows that women are 53% (exp(0.427)=1.53) more likely than men to have reported experiencing fear in the past year. Model 2 adds indicators for respondents' racial-ethnic status, which are shown to be non-significant. We also tested for differences in association between gender and fear across different ethno-racial categories, and these were not statistically significant.[2] Model 3 adds educational attainment and equivalized household income, our measures of status and power, and shows that neither of them is statistically significant. We conducted additional analyses to test whether socio-economic status (in particular household income and education) moderated or mediated the relationship between gender and feelings of fear. Neither interaction terms nor results from the KHB estimation method were statistically significant.

[Table 3 here]

Table 3 shows similar analyses, but examines the factors associated with avoidance behavior. Model 1 shows that, after taking into account the coefficients for age, marital status, employment status, and number of children in the household, women are 78% (exp(0.574)=1.78) more likely than men to have reported avoidance behavior in the past year. Model 2 adds respondents' racial-ethnic status, but these parameters do not reach statistical significance. Of note, no statistically significantly interaction between gender and racial-ethnic status was found. Model 3 adds educational attainment and equivalized household income, but neither is statistically significant. We also investigated whether the association between gender and avoidance behavior was moderated or mediated (via the KHB method)

[2] This was true for both the collapsed categorization and finer ethnic distinctions. The only statistically significant difference was that White Other and Mixed ethnicity men reported lower levels of fear than the other ethnic groups, resulting in a larger gender difference.

by household income and education: the results of these interaction and mediation tests yielded no statistically significant results.

[Table 4 here]

Table 4 presents the results from five multivariate regression analyses testing the factors associated with mental health. Model 1 shows that women score, on average, 2.24 units lower than men on the SF-12 measure, controlling for ethnicity, employment status, marital status, number of children in the household, and having a religious identity. Model 2 adds controls for educational attainment and household income. Household income shows no significant association with mental health, but compared to those with no educational qualification (the least educated group), those who hold their first degree or higher score on average 2.60 units higher on the SF-12 measure controlling for other variables in the model.

Model 3 tests the association of fear with mental health, which shows a significant negative effect. Those who report having experienced fear in the past twelve months report mental health scores, on average, 5.03 units lower compared to those who said they had no recent experiences with fear. With the inclusion of the fear variable, the coefficient for gender is reduced from -2.24 to -1.79. Model 4 adds controls for respondents' recent experiences with physical or verbal assault, neither which is found to be statistically significant. Model 5 includes respondents' recent avoidance behavior, which is also shown to be non-significant. The coefficient for respondents' gender status remains statistically significant in Models 4 and 5, as does the coefficient for feelings of fear. In addition to the models presented here, we tested the possibility of interactive effects between feelings of fear and avoidance behavior. The results (not shown, but available upon request) were non-significant, suggesting that avoidance behavior does not moderate the relationship between fear and mental health.

[Table 5 here]

In Table 5, we summarize the results from the Blinder-Oaxaca decomposition analysis of the gender difference in mental health; the full estimated coefficients from the mental health models for men and women separately, which were used for this decomposition analysis, are available upon request. This decomposition analysis allows us to determine what proportion of the mental health difference between men and women is due to gender differences in the magnitudes of the predictors of mental health – for instance, lower rates of employment – and what proportion of the difference is due to gendered differences in the *effects* of these determinants – for instance, if the mental health difference between unemployed and employed women is greater than the difference between unemployed and employed men. The first part of Table 5 shows that the difference in mental health between men and women is 2.7 units on the MCS scale. In the second part, we see that 0.9 units of this difference can be attributed to compositional differences between the two genders whereas 1.8 units are due to differences in the associations between these characteristics and mental health. When we examine the variation attributed to each characteristic of the full model (not shown, but available upon request), we see that the only compositional difference between men and women that significantly explains the mental health difference at the .05 level is the measure of fear: this variable alone is associated with .46 units on the MCS, or 17% of the total difference between men and women.

Discussion

Research in the sociology of emotions shows that emotions are shaped by structural differences in power and status (Kemper 1978, 1991) and by cultural norms (Hochschild 1979; Thoits 1989). Feelings are distributed unevenly across social groups, and the

accumulation of day-to-day emotional experiences contributes to disparities in mental health and well-being (Simon 2014). Research in the sociology of gender theorizes women's high levels of fear as both an understandable outcome of living in a society marked by significant gender inequality, as well as an emotion that is systematically encouraged in girls' and women's socialization, in varied forms of interpersonal interactions (e.g., harassment and abuse), and in macro-level cultural discourse, particularly that pertaining to sexual assault.

Though fear is a central element of gender inequality, the gendered patterning of fear remains relatively under-studied in the literature on the sociology of emotions. Research on the health-effects of fear is almost non-existent. To our knowledge, no study has examined the extent to which experiences of fear and/or avoidance behavior contribute to the disparity in men's and women's mental health. This study begins to fill this gap.

Women experience high levels of fear & avoidance behavior

Consistent with our first hypothesis, results showed that a higher proportion of women report having experienced fear in the past year (36.2% of women vs 29.8% of men). Women were also more likely to have engaged in avoidance behaviors (19.1% vs 12.0%). Consistent with our second hypothesis, the gender discrepancies in feelings of fear and avoidance were not reduced when socio-demographic variables – including socio-economic status – were included. In fact, neither respondents' education nor household income show significant associations with fear or avoidance behavior, and this is true in the aggregate sample (Tables 2 and 3), as well as when examining the predictors of fear separately for men and women.

As described above, structural theories of emotion argue that those who hold low levels of power and/or status are more likely than those who hold higher levels to experience distress and a host of specific negative emotions. Fear is theorized as reflecting a felt deficit

in power in particular (Kemper 1978). That gender is a significant and consistent predictor of fear, and that its effects are neither moderated nor mediated by socio-economic status, suggests that women's *perceived* power deficit relative to men may cut across social class. While it is certainly the case that increased socio-economic status gives women (and men) greater control over their day-to-day lives, enabling them greater opportunity to inhabit safe spaces, this increased access to safe spaces does not seem to translate to increased *feelings* of safety. Indeed, a recent meta-analysis shows that gender is a much more consistent predictor of fear of crime, a related construct, than education or other measures of socioeconomic status (Collins 2016).

Across diverse groups, fear is associated with poor mental health

Results showed strong support for our third hypothesis. Fear is consistently and significantly associated with poor mental health, in bivariate and multivariate models. Avoidance behavior, in contrast, had no significant direct or indirect association with mental health, a finding which contradicts our fourth hypothesis. This could mean that avoidance behavior is not an effective coping strategy (as suggested by Pearlin and Bierman 2013), or that any protective effect avoiding places may have is counter-balanced by negative consequences, which might include reduced physical activity or reduced social engagement.

We noted that one stream of gender theory argues that, due to gender socialization, as well as broader cultural discourse encouraging women to be afraid, feelings of fear might take a particularly large toll on women's mental health. Another stream of gender theory emphasizes that fear is at odds with prevailing notions of masculinity (Connell 2005; Schrock and Knop 2014), and that as a result, fear may take an equally large toll on men's mental health. Our test of interactive effects between feelings of fear and gender were not statistically

significant, suggesting that the relationship between feelings of fear and self-assessed mental health is similar for men and women.

In addition to gender differences in the relationship between fear and mental health, we also examined racial-ethnic differences. Our results show that ethnic minority respondents born in the UK had similar mental health compared to white British born in the UK. Those born outside of the UK, however, showed significantly poorer mental health in all of our multivariate models. Our tests for racial-ethnic and place of birth differences in experiences of fear and avoidance behaviors, as well as for interactive effects between race-ethnicity and gender found no statistically significant differences, suggesting that gender differences in experiences of fear and avoidance behavior, as well as the impact of fear on mental health, is similar across racial-ethnic groups. Taken together, the absence of any significant interactive effects suggests that the inverse relationship between experiences of fear and mental health is similar – and significant – across gender and racial-ethnic groups.

Fear contributes to disparities in mental health

Our decomposition analysis demonstrates that a significant proportion of the mental health difference between men and woman can be attributed to gendered experiences of fear. No gender compositional difference in any other variable was a significant determinant. The decomposition further revealed that the bulk of the gender difference in mental health stems from difference in the effects of explanatory variables, rather than gender difference in the magnitude of mental health predictors. No single difference in effect accounted for as much of the gap between men and women as the difference in experiences of fear, however, with the exception that the household income gradient in mental health was flatter for women than it was for men.

The robustness of the relationship between feelings of fear and poor mental health, and the significant role socially patterned feelings of fear play in exacerbating gendered health disparities are key findings of our study. Our study is not without limitations, however. First, while we find significant correlations among our key variables, the cross-sectional nature of our analyses prevents us from making claims about causality. Second, we note that our key variables, including respondents' *reports* of fear and avoidance behavior are likely affected by gender norms, and may yield under-estimates from men. The same is true for self-assessed mental health (Caroli and Weber-Baghdiguian 2016). Though subjective, self-assessed health is an important dimension of individuals' well-being and is strongly correlated with more "objective" indicators of health, including mortality (Idler and Benyamini 1997). While considerable research testifies to the strengths of the SF-12 for measuring mental health, additional research is needed to assess the association among fear, avoidance, and other health outcomes.

We also did not address how personal and social resources, such as mastery, self-esteem, and social support, might shape the relationship between fear and mental health. These resources are associated with socioeconomic status, and our study did not find a direct effect between education or income and feelings of fear, nor any evidence that socioeconomic status moderates or mediates the relationship between fear and mental health. Personal and social resources may cut across socioeconomic lines, however, and thus further research is needed to examine their impact on the relationship between gender and fear and mental health.

Future research should draw attention to macro-level factors as well. The availability of mental health care through the United Kingdom's National Health Service likely influences the prevalence of mental health problems, as well as the extent of gendered health

disparities. Similarly, the particularities of the contemporary UK gender structure, including both material and cultural dimensions, undoubtedly influences gendered patterns of fear and its relationship to mental health. Large-scale studies in other contexts are needed to determine the extent to which the relationships we have highlighted here apply elsewhere. Given the level of gender inequality recently documented in the US (e.g., Author 2018), Australia (e.g., Bastomski and Smith 2017) and elsewhere, we suspect similar results will emerge in these contexts.

On the whole, our results show support for cultural theories of emotion and underscore the need to incorporate emotions in future research on health disparities. While additional studies are certainly needed, our results suggest that efforts to reduce gender inequality might also benefit from greater attention to gendered emotion norms. As described by Risman (2017), the cultural and psychosocial dimension of gender are intertwined with the material organization of gender, which work together and through other social hierarchies to structure gender inequality. In the UK and many other contemporary contexts, feelings of fear and avoidance behaviors are not only acceptable among women, but normative. Cultural narratives remind girls and women that they *should* avoid certain places, and *should* be afraid (Stanko 1996). These cultural narratives likely promote high levels of "anticipatory stress" in women's day-to-day lives, and contribute to feelings of fear and worse mental health.

In societies marked by a high degree of gender inequality, it is reasonable, and likely beneficial for women to be cognizant of potential violence and mistreatment more generally. Though our results show no significant difference in men's and women's rates of recent physical or verbal assault, we emphasize that large scale studies in the UK (and elsewhere) *do* show that women are at greater risk of sexual assault compared to men (Office for

National Statistics 2018). Women are at higher risk of some types of violence, compared to men. And of course men are at higher risk of some types of violence than are women.

But what cultural theories of emotion remind us is that perceptions of risks, as well as the resulting emotions, are – at least in part – culturally learned. Cultural narratives help shape what places and situations are deemed "dangerous," and also for whom. Fear is not the only emotion that can emerge from perceived risk, nor is avoidance the only available coping strategy. The repertoire of human emotions, and potential cognitive and behavioral responses to perceived risk are vast. In addition to addressing the the material aspects of the gender structure that promote inequality, those interested in advancing gender equality might seek to encourage emotions other than fear, and behaviors other than avoidance – feelings and behaviors that might have positive effects on mental health, and reduce gendered health disparities.

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Table 1. Weighted sociodemographic characteristics of the sample. UK Household Longitudinal Study, Wave 1 (2009-10).

Respondents' characteristics	Men		Women		Total	
	n	%	n	%	n	%
Age groups (years)						
16-25	647	17.9	580	15.4	1227	16.6
26-35	588	16.2	593	15.8	1181	16.0
36-45	679	18.7	689	18.3	1367	18.5
46-55	563	15.5	568	15.1	1131	15.3
56-65	514	14.2	538	14.3	1052	14.2
66-75	457	12.6	526	14.0	982	13.3
76-85	148	4.1	213	5.7	361	4.9
86+	28	0.8	51	1.4	79	1.1
Ethnicity/country of birth						
White UK	3134	86.5	3225	85.8	6359	86.2
Non-white UK born in UK	129	3.6	118	3.1	247	3.3
Non-white UK born outside UK	360	9.9	415	11.0	775	10.5
Highest degree achieved						
No qualification	959	26.5	1062	28.2	2020	27.4
Non-degree qualifications	1826	50.4	2053	54.6	3879	52.5
First degree or higher	839	23.1	644	17.1	1482	20.1
Marital status						
Single	1065	29.4	840	22.4***	1905	25.8
Cohabiting	439	12.1	399	10.6	838	11.4
Married	1817	50.1	1727	45.9***	3544	48.0
Separated/divorced/widowed	302	8.3	792	21.1***	1094	14.8
Employment status						
Employed full time	1457	40.2	874	23.2***	2330	31.6
Employed part time	717	19.8	778	20.7	1495	20.3
Unemployed	262	7.2	213	5.7	475	6.4
Retired	695	19.2	1054	28.0***	1749	23.7
Other	493	13.6	839	22.3***	1332	18.0
Equivalized household income						
1st quartile	710	19.6	941	25.1**	1651	22.4
2nd quartile	938	25.9	1112	29.6**	2050	27.8
3rd quartile	854	23.6	814	21.7	1668	22.6
4th quartile	1122	31.0	891	23.7**	2013	27.3
Felt unsafe at places						
1+ places	1079	29.8	1360	36.2*	2439	33.0
Avoided places						
1+ places	435	12.0	719	19.1**	1154	15.6
Insulted at places						
1+ places	635	17.5	628	16.7	1262	17.1
Attacked at places						
1+ places	250	6.9	214	5.7	465	6.3
Average mental health score (SF-12)	-	51.6	-	48.9***	-	50.3
Total	3623	49.1	3758	50.9	7381	100.0

*p <0.05, **p < 0.01, ***p <0.001

Table 2. Estimates based on logit regression models for self-reported fear using data from Understanding Society, Wave 1 (2009-10).

Explanatory variables	Model 1		Model 2		Model 3	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Gender						
Women	0.427**	0.155	0.428**	0.154	0.426**	0.154
Age group (years)						
26-35	0.337	0.310	0.329	0.312	0.304	0.309
36-45	0.258	0.302	0.247	0.305	0.296	0.303
46-55	0.026	0.295	0.008	0.299	0.032	0.294
56-65	0.121	0.336	0.101	0.341	0.133	0.339
66-75	-0.535	0.504	-0.556	0.508	-0.508	0.507
76-85	-0.421	0.570	-0.442	0.574	-0.322	0.581
86+	-0.387	0.897	-0.411	0.899	-0.147	0.940
Ethnicity/country of birth						
Non-white UK born in UK	-	-	-0.267	0.170	-0.301	0.180
Non-white UK born outside UK	-	-	-0.042	0.196	-0.064	0.204
Highest degree achieved						
Non-degree qualifications	-	-	-	-	0.176	0.199
First degree or higher	-	-	-	-	0.454	0.247
Marital status						
Cohabiting	-0.253	0.266	-0.260	0.267	-0.217	0.271
Married	-0.098	0.234	-0.100	0.236	-0.065	0.234
Separated/divorced/widowed	0.468	0.284	0.465	0.284	0.526	0.284
Employment status						
Employed part time	-0.139	0.208	-0.142	0.208	-0.136	0.214
Unemployed	0.015	0.347	0.019	0.348	0.086	0.363
Retired	-0.796	0.377	-0.798*	0.377	-0.826*	0.384
Other	0.077	0.230	0.081	0.231	0.119	0.240
Number of children in the household	-0.188*	0.091	-0.189*	0.091	-0.206*	0.093
Equivalized household income						
2nd quartile	-	-	-	-	0.360	0.214
3rd quartile	-	-	-	-	0.131	0.240
4th quartile	-	-	-	-	-0.047	0.252

SE = standard error; *p <0.05, **p < 0.01, ***p <0.001

Table 3. Estimates based on logit regression models for avoidance behavior using data from Understanding Society, Wave 1 (2009-10).

Explanatory variables	Model 1		Model 2		Model 3	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Gender						
Women	0.574**	0.205	0.574**	0.205	0.577**	0.206
Age group (years)						
26-35	0.478	0.409	0.460	0.408	0.471	0.407
36-45	0.463	0.429	0.457	0.435	0.435	0.441
46-55	0.935*	0.399	0.921*	0.405	0.854*	0.416
56-65	0.768	0.487	0.755	0.497	0.692	0.507
66-75	0.563	0.653	0.550	0.661	0.452	0.677
76-85	1.231	0.701	1.215	0.705	1.076	0.718
86+	0.318	1.258	0.305	1.264	0.258	1.263
Ethnicity/country of birth						
Non-white UK born in UK	-	-	-0.238	0.212	-0.224	0.217
Non-white UK born outside UK	-	-	0.102	0.270	0.078	0.289
Highest degree achieved						
Non-degree qualifications	-	-	-	-	-0.105	0.230
First degree or higher	-	-	-	-	-0.180	0.324
Marital status						
Cohabiting	-0.967**	0.368	-0.966**	0.369	-0.933*	0.370
Married	-0.480	0.290	-0.490	0.292	-0.440	0.294
Separated/Divorced/Widowed	-0.559	0.349	-0.568	0.349	-0.578	0.345
Employment status						
Employed part time	0.004	0.299	0.005	0.300	-0.068	0.322
Unemployed	0.375	0.373	0.373	0.374	0.146	0.371
Retired	-0.289	0.440	-0.285	0.440	-0.431	0.459
Other	0.573*	0.287	0.570*	0.286	0.397	0.305
Number of children in the household	-0.096	0.136	-0.096	0.136	-0.122	0.134
Equivalized household income						
2nd quartile	-	-	-	-	-0.111	0.287
3rd quartile	-	-	-	-	-0.194	0.326
4th quartile	-	-	-	-	-0.396	0.358

SE = standard error; *p <0.05, **p < 0.01, ***p <0.001

Table 4. Estimates based on linear regression models for mental health (MCS) using data from Understanding Society, Wave 1 (2009-10).

Explanatory variables	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE
Gender										
Women	-2.238**	0.706	-2.213**	0.694	-1.790**	0.690	-1.803**	0.692	-1.775*	0.694
Age group (years)										
26-35	-3.150*	1.413	-3.459*	1.402	-3.145*	1.327	-3.209*	1.321	-3.176*	1.337
36-45	-5.542**	1.592	-5.752***	1.606	-5.462**	1.570	-5.552***	1.556	-5.519***	1.565
46-55	-5.027**	1.625	-4.743**	1.637	-4.793**	1.640	-4.918**	1.634	-4.838**	1.653
56-65	-2.798	1.777	-2.486	1.778	-2.453	1.742	-2.569	1.731	-2.515	1.735
66-75	-1.819	2.218	-1.166	2.264	-1.711	2.284	-1.799	2.278	-1.741	2.284
76-85	-4.182	3.097	-3.238	3.028	-3.721	3.052	-3.834	3.034	-3.727	3.047
86+	4.710	4.412	5.161	4.346	4.905	4.087	4.693	4.107	4.722	4.132
Ethnicity/country of birth										
Non-white UK born in UK	0.235	0.621	-0.152	0.639	-0.619	0.635	-0.715	0.632	-0.725	0.631
Non-white UK born outside UK	-2.078	1.246	-2.202	1.292	-2.400	1.288	-2.468	1.290	-2.465	1.289
Highest degree achieved										
Non-degree qualifications	-	-	1.010	0.996	1.184	0.953	1.251	0.964	1.232	0.966
First degree or higher	-	-	2.599*	1.042	3.073**	1.013	3.111**	1.013	3.070**	1.017
Marital status										
Cohabiting	1.277	1.439	1.198	1.474	0.984	1.465	0.978	1.471	0.914	1.470
Married	3.480**	1.227	3.400**	1.248	3.287**	1.252	3.302**	1.250	3.256**	1.250
Separated/Divorced/Widowed	-0.476	1.636	-0.376	1.613	0.147	1.567	0.189	1.567	0.103	1.556
Employment status										
Employed part time	0.603	0.944	1.144	0.974	0.962	0.934	1.001	0.932	0.996	0.935
Unemployed	-2.794	1.830	-1.203	1.862	-1.117	1.726	-0.948	1.732	-0.946	1.726
Retired	-0.021	1.780	1.106	1.794	0.245	1.778	0.158	1.771	0.164	1.770
Other	-3.611**	1.222	-2.271	1.311	-2.146	1.255	-2.132	1.246	-2.100	1.249
Number of children in the household	0.120	0.433	0.377	0.444	0.152	0.425	0.160	0.423	0.159	0.425
Equivalized household income										
2nd quartile	-	-	-1.071	1.203	-0.680	1.173	-0.769	1.180	-0.791	1.181
3rd quartile	-	-	1.367	1.233	1.501	1.200	1.475	1.197	1.455	1.199
4th quartile	-	-	1.554	1.216	1.483	1.206	1.476	1.212	1.444	1.215
Does not belong to a religion	-0.624	0.769	-0.525	0.762	-0.907	0.749	-0.908	0.764	-0.948	0.767
Felt unsafe at places	-	-	-	-	-5.025***	0.762	-4.708***	0.822	-4.501***	0.846
Attacked at places	-	-	-	-	-	-	0.138	1.702	0.169	1.699
Insulted at places	-	-	-	-	-	-	-1.289	1.069	-1.225	1.072
Avoided places	-	-	-	-	-	-	-	-	-0.678	1.053

MCS = Mental Health component of SF12; SE = standard error; *p <0.05, **p < 0.01, ***p <0.001

Table 5. Blinder-Oaxaca decomposition of gender differences in mental health (measured using SF12) using data from Understanding Society, Wave 1 (2009-2010).

Estimates	**Coefficient**	**SE**
Predicted mental health (MCS) Men	51.634***	0.486
Predicted mental health (MCS) Women	48.944***	0.527
Sex/Gender Difference in mental health (MCS)	2.691***	0.664
Decomposition of gender difference in mental health (MCS)		
Magnitude[1]	0.887	0.467
Effects[2]	1.845*	0.752
Interaction[3]	-0.041	0.567

MCS = Mental Health component of SF12; SE = standard error; *p <0.05, ** p < 0.01, ***p <0.001; [1] This shows the gender difference in MCS if women had the same characteristics as men; [2] This shows the gender difference in MCS if women had the same coefficients as men, but their own characteristics; [3] This is the remaining gender difference in MCS due to the difference in characteristics *and* coefficients. Men are taken as the base category for this decomposition.