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ORIGINAL PAPER

Reflechi twòp—Thinking Too Much: Description of a Cultural Syndrome in Haiti's Central Plateau

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Abstract A rich Haitian ethnopsychology has been described, detailing concepts of personhood, explanatory models of illness, and links between mind and body. However, little research has engaged explicitly with mental illness, and that which does focuses on the Kreyòl term *fou* (madness), a term that psychiatrists associate with schizophrenia and other psychoses. More work is needed to characterize potential forms of mild-to-moderate mental illness. Idioms of distress provide a promising avenue for exploring common mental disorders. Working in Haiti's

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Central Plateau, we aimed to identify idioms of distress that represent cultural syndromes. We used ethnographic and epidemiologic methods to explore the idiom of distress *reflechi twòp* (thinking too much). This syndrome is characterized by troubled rumination at the intersection of sadness, severe mental disorder, suicide, and social and structural hardship. Persons with "thinking too much" have greater scores on the Beck Depression Inventory and Beck Anxiety Inventory. "Thinking too much" is associated with 8 times greater odds of suicidal ideation. Untreated "thinking too much" is sometimes perceived to lead to psychosis. Recognizing and understanding "thinking too much" may allow early clinical recognition and interventions to reduce long-term psychosocial suffering in Haiti's Central Plateau.

Keywords Depression · Anxiety · Idioms of distress · Ethnopsychology · Mental health · Haiti · Suicide

Introduction

Existing literature on Haitian ethnopsychology provides rich detail on Vodou explanatory models, concepts of personhood, and the place of persons in the universe of the natural, social, ancestral, and spiritual (Brodwin 1996; Kiev 1961; Sterlin 2006). At the same time, when work on Haitian ethnopsychology explicitly engages mental health, it is most often through reference to *fou* (madness), a term that psychiatrists often liken to schizophrenia and other psychoses (Desrosiers and Fleurose 2002). Potential milder forms of mental illness have not been adequately explored, despite ethnographic evidence of mild-to-moderate mental health disorders in Haiti (Khoury et al. 2012), as well as epidemiologic evidence of a high burden of common mental disorders in low- and middle-income countries (Collins et al. 2011; WHO 2008a). One of the primary limitations in exploring mental illness in Haiti is identifying appropriate language with which to do so. Indeed, the French term *santé mentale* (mental health) appears to have no widely understood equivalent in Kreyòl.

One way to engage locally salient forms of mental suffering is through exploring local explanations of distress, including idioms of distress (Hinton and Lewis-Fernández 2010; Kohrt and Hruschka 2010). Such idioms can prove equally or more useful than psychiatric categories in the identification of those suffering from mental illness (Bolton 2001; Kohrt and Harper 2008; Kohrt et al. 2004). For example, in Sri Lanka, idioms of distress predicted functional impairment above and beyond a PTSD scale and depression inventory (Jayawickreme et al. 2012). In Tanzania, "thinking too much," as well as other local idioms of distress, showed similar grouping patterns as Western biomedical screening tools (Kaaya et al. 2010). Idioms that represent a locally meaningful collection of symptoms, or a cultural syndrome, might prove to be particularly powerful as communicative tools for identification and treatment of mental disorders (Hinton et al. 2010). Examples of cultural syndromes include *yadargaa*, a fatigue-related illness found in Mongolia (Kohrt et al. 2004) and *umushiha*, which denotes extreme and persistent irritability in Rwanda (Betancourt et al. 2011).

Beyond identifying idioms of distress and exploring their overlap or divergence with Western categories of mental illness, investigators have successfully

incorporated them into therapeutic screening and program design. Among Cambodian refugees, effective therapies have been developed that target both PTSD diagnostic symptoms and culturally meaningful experiences of orthostatic panic and *khyâl* attacks (Hinton et al. 2005, 2008). Furthermore, "on-the-ground" interventions that combine both Western-based forms of trauma therapy and indigenous healing systems have resonated strongly with victims of war and displacement (Stepakoff et al. 2006).

Ethnographic research is particularly informative because it facilitates the identification of idioms of distress that communicate the complex etiology, meaning, and response surrounding forms of suffering (Hinton and Lewis-Fernández 2010; Kohrt and Hruschka 2010; Nichter 1981; Rubel 1964). Prior research in Haiti has identified several "illness syndromes" with clearly delineated and recognizable symptoms, including *pedisyon* (arrested pregnancy), *move san* (bad blood), and *sezisman* (seized-up-ness) (Coreil et al. 1996; Farmer 1988; Mazzeo and Hoover 2010). Yet, little work has explored idioms of distress that represent mild-to-moderate mental disorders in Haiti.

There is a dearth of research describing idioms of distress as cultural syndromes, particularly in the Central Plateau (Farmer 1988). This paper addresses the gap in Haitian ethnopsychology, providing an initial description of the idiom "thinking too much." "Thinking too much" has been described in over 130 studies across cultures and world regions as a common way of expressing mental distress (c.f. Brown et al. 2012; Hinton et al. 2012; Touze et al. 2005; Patel et al. 1995; Yarris 2011). We compare our findings in Haiti to other idioms for "thinking too much" used in various contexts, as identifying commonalities may highlight potential routes for intervention. We address the relevance of "thinking too much" for care providers and argue that this idiom of distress provides an important space for early recognition and intervention to limit long-term psychosocial suffering.

Methods

We conducted an ethnographic study of perceptions of and provisions for mental illness in the summer of 2010 in Haiti's Central Plateau. Research activities were based in the communal section of Lahoye, with an adult population of approximately 7,500 according to a 2009 census (IHSD 2009). Methods included participant observation, semi-structured interviews, focus group discussions, observant participation of clinical practitioners, cognitive ethnographic techniques, and case studies of persons locally identified as suffering from mental illness (Kaiser et al. 2013; Keys et al. 2012; Khoury et al. 2012). We identified a number of what Hinton and Lewis-Fernández (2010) refer to as idioms of overall "life distress" or "psychosocial functioning," which indicate impaired social or work functioning (Kaiser et al. 2013; Keys et al. 2012). These idioms are linked to Haitian ethnopsychology and were developed into a local screener, as described below (Kaiser et al. 2013; Keys et al. 2012). In the current analysis, we examine the specific idiom *reflechi twòp* (thinking too much).

We trained bilingual Haitian research assistants in translation and structured methods of data collection. All study participants provided verbal consent in Kreyòl. The study was approved by Emory University's Institutional Review Board and the Haitian Ministry of Health.

Qualitative Data Collection and Analysis

Thirty-one semi-structured interviews were conducted with traditional healers, clinicians, religious leaders, municipal figures, and other community members. Individuals were selected through purposive sampling of those who interact with and provide support to a wide range of individuals, as well as through referrals from other community members. Interviews ranged from 30 to 120 min and were audio recorded. Focus groups with community members inquired about resources and needs in the community, perceptions of mental illness, and idioms of distress. Two clinically trained researchers shadowed clinicians and one psychologist at a primary care clinic, mobile clinics, and during home visits with patients. Patient–clinician interactions were observed, and field notes were taken regarding history and presentation, language and terminology used by patient and provider, and treatment decisions made by the clinician. Four persons identified by community leaders as suffering from mental illness (typically fou) served as case studies. Each case study participant was observed in their daily activities and interviewed several times during the period of observation. Field notes were taken by co-investigators, and selected interviews were audio recorded (see Supplemental Tables for further information on qualitative data). A follow-up study was conducted in the summer of 2011 that included the same qualitative methods. These follow-up data were not coded and analyzed exhaustively, but a small number of representative examples are provided here to complement the 2010 data.

Audio recordings of 2010 data were transcribed and translated by bilingual Haitian research assistants. Using content analysis (Ryan and Bernard 2003), we constructed a codebook that included both emic and etic concepts. Codes were created after data collection was completed and included themes of causes of mental illness, Western and local symptomology, experiences and outcomes of mental illness, and existing resources. All participant observation notes and translated texts from interviews and focus group discussions were coded by co-investigators after establishing sufficient inter-coder reliability (agreement > 0.70).

MaxQDA10 was used for coding and to facilitate analysis (VERBI 1989–2010). To identify qualitative data analyzed in this paper, text segments were retrieved if they were coded for "thinking too much" (as a local symptom of mental illness) or sitting and thinking (as a cause of mental illness). To locate text segments referring to "thinking too much" that were potentially not included in these two codes, lexical searches were performed for thinking, *kalkile*, *kalkilasyon*, *reflechi*, and reflect. These text segments were analyzed for characterizations, causes, outcomes, and broader context of "thinking too much."

When discussing "thinking too much," participants used a variety of terms, including *maladi kalkilasyon* (calculation sickness), reflechi twòp (thinking too much), *kalkile twòp* (calculating too much), and *egzamine* (examining). Although participants often alternated among these terms in their descriptions, reflechi twòp

was the term used most often by informants. Additionally, terms such as kalkile refer to thinking in the sense of "figuring out" or "resolving." Because "thinking too much" as a syndrome is instead marked by thinking without finding solutions, as discussed below, we prefer the term reflechi twòp, which translates to "mulling over," "ruminating," or "reflecting." Throughout the paper, we use the term "thinking too much" to refer to the English equivalent of the syndrome and include the exact Kreyòl phrase used by participants when possible.

Quantitative Data Collection and Analysis

Drawing upon our ethnographic findings from 2010 (Keys et al. 2012; Khoury et al. 2012), we culturally adapted two screening tools (Beck Depression Inventory [BDI] and Beck Anxiety Inventory [BAI]) and locally developed two screening tools (Kreyòl Distress Idioms [KDI] and Kreyòl Function Assessment [KFA]) (Kaiser et al. 2013). We used a series of focus group discussions to culturally adapt measures of depression and anxiety, in order to ensure that concepts were comprehensible, acceptable, and relevant, using a standardized method for transcultural translation (van Ommeren et al. 1999). Through combined use of these methods, we aimed to develop tools that were both ethnographically valid and able to communicate results with international audiences through comparison with existing psychiatric instruments (Kohrt et al. 2011). The KDI was developed iteratively, by identifying potentially salient idioms of distress through the qualitative methods described above, exploring these idioms in two focus group discussions, pilot-testing a 17-item scale with a sample of 98 individuals, and removing poorly understood or potentially stigmatizing items. See Table 1 for the final 13 items used in the screener. When used in conjunction with adapted screening tools, the idioms of distress screener correlated strongly with symptoms of anxiety, but appeared to constitute more commonly used expressions of mental distress than the adapted tools (Kaiser et al. 2013). The KFA was developed through free listing of sex-specific daily tasks that people must do to support themselves, their family, and their community (Bolton and Tang 2002).

We applied the four instruments in a 408-person epidemiologic survey in the Lahoye region of Haiti's Central Plateau. The cross sectional household survey took place between May and June 2011. Participants were identified through a modified version of the WHO "random walk" protocol (WHO 1991). Data were collected in 13 of the 17 zones of Lahoye, with the other zones considered too dangerous to access during the rainy season. Four research assistant days were used to collect surveys in each zone. Household identification began from the locally recognized center of the zone, then proceeding in opposite directions and visiting each *lakou* (household compound) encountered. Data are not available regarding the age structure of the Central Plateau, so research assistants selected participants by rotating among age categories: 18–30, 31–50, or 50+. Additionally, research assistants alternated by sex. Surveys were double-entered into Excel and crosschecked for consistency. See Wagenaar et al. (2012, 2013) for complete description of survey methods.

To explore the structure of the KDI instrument, principal components analysis (PCA) was performed with the 13 screener items. PCA was performed using the correlation matrix, with principal components extraction and Promax rotation.

Table 1 Items from Kreyòl Distress Idioms screener

Idiom of distress	Literal translation	Approximate meaning
Dekontwole	Loss of control	Loss of control, weakness, feeling overwhelmed
De la la	[No equivalent]	Lack of energy, fatigue, depressed mood
Kè bat fò	Heart beating strong	Racing heartbeat, surprise
Kè fè mal	Heart hurts	Sadness, pity, epigastric pain (reflux)
Kè sere	Tight/bound heart	Shock, sadness, pity
Pèdi bon anj	Lost good angel	Enervating spirit briefly departs body, loss of control, weakness, vulnerability
Reflechi twòp	Thinking too much	Persistent rumination, diminished affect, social isolation
Santi m prale	"I think I am going"	Thoughts of death, fear, dread, feeling overwhelmed
Tèt chaje	Loaded head	Worry, preoccupation, feeling overwhelmed but still in control
Tèt cho	Hot head	Being "on edge," nerve-wracking, reactive
Tèt fè mal	Head hurts	Headache, variety of physical or non-physical causes
Tèt pa la	Head not there	Forgetfulness, absent-mindedness, poor concentration
Tèt vire	Spinning head	Dizziness, vertigo, unusual behavior

Kaiser's rule was used to select components, with those having an eigenvalue of approximately 1.0 or greater retained. Variables were considered to load on a component if they had a factor loading of 0.4 or greater.

Correlations between the idiom "thinking too much" and BDI and BAI scores, as well as suicidal ideation, were evaluated using Spearman correlation coefficients. Spearman coefficients were chosen due to lack of normality of "thinking too much" score distribution. *T* tests were used to assess significant differences in BDI and BAI mean scores between endorsers and non-endorsers of "thinking too much," as well as between those who endorsed low/no experience of the idiom (0–1 response) and those who endorsed higher level of experience (2–4).

Results

We begin by presenting one participant's experience of "thinking too much," followed by a description of the idiom's characterization, causation, links to severe mental disorder, and proposed solutions. We then examine associations of "thinking too much" with our culturally adapted measures of depression and anxiety.

Case Study: Elana[1]

Elana was suggested as a case study participant by a community member because she sought treatment from physicians, *hougan*-s[2] (Vodou priests), and priests when she

[1] All names used in this paper are pseudonyms.

[2] This paper utilizes the standard convention of adding -s to indicate plural Kreyòl words, rather than -*yo*, the plural indicator in Kreyòl.

suffered from severe auditory hallucinations and paranoia. Elana's family took her to a hospital in Port-au-Prince when she stopped eating for several days, stating that a voice was commanding her to do so. When physicians could not help her, the family turned to hougan-s and Catholic priests for a solution. Despite short-term improvement, Elana continues to experience symptom relapse. She often experiences headaches from "thinking too much," particularly about her future and that she is back living at home. Unlike Elana's sister and neighbors, who attribute her sickness to spirits, Elena and her mother think that the continued problems are caused by her "sitting and thinking." Prior to her first illness episode, Elana had received a nursing diploma, and her mother believes that her current distress is caused by ruminating about not living up to her potential. Elana explains that she tries to create activities to occupy her time so that she does not sit idly and "think too much."

Elana's story highlights several of the key characteristics of "thinking too much" that were described by participants, including incessant rumination on a singular problem, somatic symptoms such as headache and changes in eating, and potential links to more severe mental illness. At the same time, Elana's case is unique in that her experience with severe mental illness—widely described in the community as fou (madness)—arose due to an unknown cause and subsequently resulted in her experience of "thinking too much."

It is noteworthy that explanations of causation diverged between neighbors and family members. Those in the community attributed her condition to spirits, while her mother explained that she suffered from personal setbacks in not achieving her goals. As we will discuss below, this speaks to the larger political economy of moral labeling associated with spirit attacks, in that those suffering from mental distress may feel it necessary to dispel suspicion of being guilty for provoking a spirit attack. Conversely, attribution to spirits may serve as a means to displace blame for persistent mental illness by assigning the etiology to forces beyond one's control, as opposed to an "innate" attribute. As well, for Elana, "thinking too much" appeared to be more an end-result, rather than the cause, of her troubling condition. Her story illustrates how "thinking too much" and severe mental illness are sometimes linked.

Characterization and Recognition

> All of their time is occupied by thinking.—Jozèt, Community Member.

Among participants, characterizations of "thinking too much" shared certain elements. Some of these core elements can occur in everyday experiences, but participants provided several indicators that demarcate when reflechi (thinking) becomes abnormal reflechi twòp (thinking too much). As the term suggests, the central feature of "thinking too much" is persistent rumination, to the point of seeming detached or far away. While someone who does not have reflechi twòp can seem distracted, with their mind elsewhere, it is only considered abnormal if someone thinks and worries "totally," "very often," or "without ceasing": "Someone who worries continuously, that's a mental problem" (social worker).

In addition to the extent of rumination, the characterization of "thinking too much" also depends on the subject of one's thoughts, in particular an unwavering

focus on a singular problem. For example, loss of a family member is expected to provoke thinking and reflection, and in such a case these behaviors are seen as both quite expected and time-delimited. In clarifying why such an example does not represent "thinking too much," one teacher remarked that loss of a family member represents a "separation problem" rather than maladi kalkilasyon (calculation sickness). Instead, "thinking too much" occurs when someone ruminates on a particular problem, only able to focus on that one issue and often becoming tormented by it. Importantly, "thinking too much" is characterized by thinking that is *not* directed toward a solution, as one social worker explained:

> But when we say "*l'ap reflechi*" (he/she is thinking), it's not in the sense of resolving a problem. It's not that the person is in the midst of thinking in a scientific way. It's someone who has a problem that torments them. Now at each instant they're thinking of this problem, you see.

Participants indicated that "thinking too much" can be easily recognized when someone isolates from others, sitting in solitude, thinking. In fact, references to "thinking too much" were often phrased as "sitting and thinking" by informants. One member of a local protestant church explained, "It's easy to see when someone is in a situation like this, because they will just stay by themselves. They won't take company with anyone. He is thinking, pondering. It's easy to see." In addition to isolating themselves, people with "thinking too much" can be identified if they become unusually quiet. In fact, one respondent explained that "sitting in silence" is what differentiates someone with "thinking too much" from those with other mental problems, such as fou and *tèt cho* (aberrant social behavior). Referring to people who are egzamine (examining), a pastor explained, "If you do not make them speak, they will not speak. [In contrast] those who are tèt cho, they empty their speech. You cannot understand what they are saying."

A number of informants identified potential consequences of "thinking too much" as weight loss and trouble sleeping. People who are "thinking too much" are described as remaining distant and deep in thought instead of eating. Weight loss was listed as another possible sign to identify someone as "thinking too much." In addition, one who is "thinking too much" often continues ruminating at night, thus having trouble sleeping:

> The word "reflechi" in Kreyòl has different meanings. You can say, "Ah! *M'ap reflechi, m'ap kalkile*! [I'm thinking, I'm calculating]" Which is to say, someone has a problem, thinks about their problem, but doesn't think about ways to solve the problem, just thinking about their bad situation. "Well! He doesn't even sleep! *L'ap reflechi*!" [He's thinking] OK? "He doesn't eat, *l'ap reflechi*!" He starts getting skinny because "*l'ap reflechi*." It's all to say that he's thinking too much about his situation (social worker).

As described below, these initial consequences are sometimes thought to lead to more extensive or prolonged illness.

Causation

> Bad thinking, calculating, you have work to do in front of you and you have nothing in front of you to be able to do it. You are not capable. All day I calculate; I want to do it, but I am not capable.—Jonel, community member.

Respondents indicated that many things can cause "thinking too much." In particular, concerns over money—having "nothing in one's pocket"—and lack of food were commonly named causes. When a landlord is seeking payment for a house or one's children are going hungry, one can easily become fixated on the problem of how to feed and care for one's family. These situations are often tied to external factors, such as losing a job or failed crops. Beyond the material impacts, participants explained that "thinking too much" is driven by the fact that, when these losses occur, one can no longer achieve their goals, which is often a source of shame. This etiology is clearly demonstrated by Elana's case, as she "sits and thinks" about her lack of ability to live up to her potential as a nurse. Two participants also mentioned sickness, such as HIV/AIDS, as a potential cause of "thinking too much," but more often respondents discussed physical sickness as a consequence of experiencing the syndrome.

Though not always named as a cause of "thinking too much," *mank de aktivite* (lack of activities) was described as exacerbating the experience. When asked to explain expressions and manifestations of rumination, one nurse commented that people are not very busy, with little to occupy their time or distract their thoughts. The family of a man who was thought to have fou explained that he used to have a job and participate in activities, but now he can only kalkile (think) and cannot do what he wants. His lack of ability to contribute to the family is compounded by the negative effects of having ample time to "sit and think" without employment or activities to fill the time. To avoid such exacerbating effects, Elana explained that she created activities to avoid "thinking too much." Similarly, one psychologist recommended to a female patient that she find work so as to avoid sitting at home thinking about her son who died the previous year.

While various chronic and acute factors can cause "thinking too much," respondents often discussed the syndrome as closely linked to sadness. In fact, a large number of references to "thinking too much" arose when participants were asked for expressions used to indicate sadness. This link is made in part because the signs of "thinking too much," such as seeming "distant in one's thoughts" or becoming quiet, are the main changes that participants noted as indicating when someone is experiencing prolonged sadness. These behaviors are adopted at least in part as an attempt to avoid what are considered unacceptable responses to events such as loss of a family member. Two women who were observed in counseling with a psychologist commented that they cannot cry because they are supposed to be strong. Instead, they reflect quietly, and when this reaches the point of "thinking too much," it is noted by community members as an indication of sadness. As one community member explained, "Sadness really lies in one's thoughts."

Relfechi twòp (Thinking Too Much) and Fou (Madness)

> Thinking like that, he can even lose his mind and drift in total madness.—Lwi, community leader.

As described above, "thinking too much" was often associated with conditions of weight loss and trouble sleeping. Respondents indicated that these functional impairments can potentially lead to other sicknesses as a result of the syndrome. In addition to physical sicknesses, "thinking too much" can, in some cases, ultimately lead to more significant mental problems, such as memory loss and, at the extreme, fou. People who are sad or "thinking too much" were described by respondents as not quite fou—but close. Participants clearly indicated that "thinking too much" must be severe and prolonged for a shift to fou to occur:

> Sometimes that person thinks too much, if he thinks more and more, after a certain period of time, that person may be fou ("crazy"), if he thinks from minute to minute, from day to day (community health worker).

The notion of progression from "thinking too much" to fou was put forth by at least seven participants, including a nurse, community health worker, teacher, pastor, community leader, and one man describing himself. When observing counseling sessions run by a Haitian psychologist, we encountered a man who was described as having "explosive incidents," in which he became aggressive and threatening. When asked to describe how he felt before these incidents, he explained, "M*wen te reflechi twòp*" (I thought too much) about "*tout bagay*" (everything). In addition, he experienced extreme sadness, as well as increased energy and uncontrolled thoughts. His behaviors, identified as fou, followed his experience of "thinking too much." Similarly, Elana's mother ascribes her experience of fou to "thinking too much," as she ruminates about what she has to offer but is not living up to: "She is smart, educated, could even be a nurse, but does nothing." Significantly, her mother offered this explanation to contradict others who attribute Elana's illness to spirits. Despite these connections, "thinking too much" and fou remain clearly delineated. For example, one participant explained that someone who has fou exhibits unacceptable behaviors, while someone with maladi kalkilasyon simply thinks a lot, unless they become fou:

> When a person has mental problems, that person can sometimes do things s/he isn't supposed to do. However, when a person has maladi kalkilasyon (calculation sickness), s/he just thinks about the problem a lot. After some time though, if they think too much, that person can become someone like a person who has mental problems (teacher).

Another teacher followed this description by explaining the association through metaphor: "*santé mentale* (here used to refer to psychosis) is like the oldest brother, and kalkilasyon (calculation) is like the youngest."

Proposed Resources and Supports

> Once you stop playing soccer or cards, you start thinking again about the roots of your problems.—Emanuel, community leader.

When asked what could help people with "thinking too much," participants often addressed the immediate causes, such as lack of money or activities. One respondent explained that if a person can get "some small help" (monetary support), they will not think too much. Another man, who participates in an HIV/AIDS support group, explained that he thinks a lot about his illness, but he receives encouragement from the support group and remains functional. Others suggested that organizing activities, such as soccer tournaments, dancing, or sewing lessons, would help people to occupy their time so that they do not sit and think as much. On the other hand, one community leader opined that helping someone manage stress by finding activities only provides temporary relief. After the activities are over, the sadness returns as one reflects on the true cause of their "thinking too much." He thus explained that such solutions are probably most helpful among those with less severe economic problems.

Indeed, broader structural factors seem to drive "thinking too much" and closely associated experiences, leaving people with a lack of agency in improving their lives. Instead, they are left without jobs, unable to feed their children, and forced to sit idly, thinking about what they do not have. The family member of a man thought to have fou described these broader drivers of distress:

> There is no work! It is the impossibility; it's poverty that puts everyone in all these things because people are sitting down, only sitting down (being idle), eating. And the food, they don't know where it will come from, and they are thinking about how to get food […] You can't think of anything else.

As the community leader suggests, contending with "thinking too much" perhaps requires addressing these broader structural factors.

Quantitative Associations with Depression and Anxiety

Approximately one-quarter of our sample ($N = 97$, 24 %) endorsed no experience of reflechi twòp in the past 2 weeks, 28 (7 %) reported "a little," 63 (16 %) reported a moderate amount, 111 (27 %) reported a lot, and the remaining quarter ($N = 106$, 26 %) reported experiencing it all the time (missing $N = 3$). In a PCA of our 13-item KDI screener, reflechi twòp loads very strongly on the second component, which includes items indicating worry, rumination, sadness, and dizziness/vertigo (eigenvalue = 1.5; see Table 2). This component explains 11 % of the variance in total scores on the KDI. Reflechi twòp endorsement is more strongly correlated with scores on the culturally adapted BAI than the BDI ($\rho = 0.42$ and 0.30, respectively; $N = 405$, $p < 0.001$; see Fig. 1). Furthermore, experience of "thinking too much" appears to be associated with greater differences in scores on the BAI than the BDI, but only at higher levels of endorsement. Those who endorsed *any* experience of reflechi twòp over the previous 2 weeks scored on average nine points higher on

Table 2 Mean depression and anxiety scores by *reflechi twop* status ($N = 405$)

	Instrument mean score (95 % confidence interval)			
	No current reflechi twòp ($N = 97$, 24 %)	Any current reflechi twòp ($N = 308$, 76 %)	Total sample ($N = 405$)	Independent *t* test
Beck Depression Inventory (BDI)	13.57 (12.20, 14.93)	22.44 (21.12, 23.75)	20.31 (19.20, 21.42)	−7.09 ($p < 0.0001$)
Beck Anxiety Inventory (BAI)	9.58 (8.14, 11.01)	18.20 (17.0, 19.41)	16.14 (15.10, 17.18)	−7.41 ($p < 0.0001$)

both the BAI and BDI than those who responded "I have not experienced it" (BAI: 18.1 vs. 9.5; BDI: 22.3 vs. 13.5; both *t* tests: $p < 0.001$) (see Table 3). While still statistically significant, the difference in average scores on the BDI was less marked between those endorsing high versus low experience of reflechi twòp (BAI: 19.7 vs. 11.9; BDI: 22.8 vs. 17.2; both *t* tests: $p < 0.001$). Any endorsement of reflechi twòp is associated with 7.7 times greater odds of any suicidal ideation in bivariate analysis (95 % confidence interval 1.03, 58.04).

Discussion

The Haitian idiom of distress *reflechi twòp* (thinking too much) is marked by persistent, troubling rumination on a singular problem, often causing someone to isolate oneself. It can result from material deprivation and is tied closely to failure to achieve one's goals and lack of productive activity. "Thinking too much" is recognized when someone becomes removed and quiet, or when they experience weight loss and trouble sleeping. It is seen as a primary way that people express severe sadness and recognize it in others. When it persists for a long period, "thinking too much" can, in rare occasions, lead to psychosis, termed *fou*. While support from family and community appears to alleviate the problems of "thinking too much," there are enduring social and structural inequalities that lie at the root of the syndrome and that are more difficult to address.

Thinking Too Much in Cross-cultural Context

Many of the core characteristics of "thinking too much" as described in Haiti are shared across settings. For example, many studies emphasize the central characteristic of persistent rumination (Betancourt et al. 2011; Frye 1991; Harms et al. 2009; Hollan and Wellenkamp 1994; Nepveux 2009) and the intense focus on a singular problem and lack of clear solution (Karasz 2005; Yarris 2011). Several authors also link "thinking too much" to sadness and social isolation (Brown et al. 2012; Okello and Ekblad 2006; Pedersen et al. 2010; Yarris 2011). Other authors have indicated that having too much free time—whether due to unemployment or domestic roles—can exacerbate the experience of "thinking too much" (Karasz

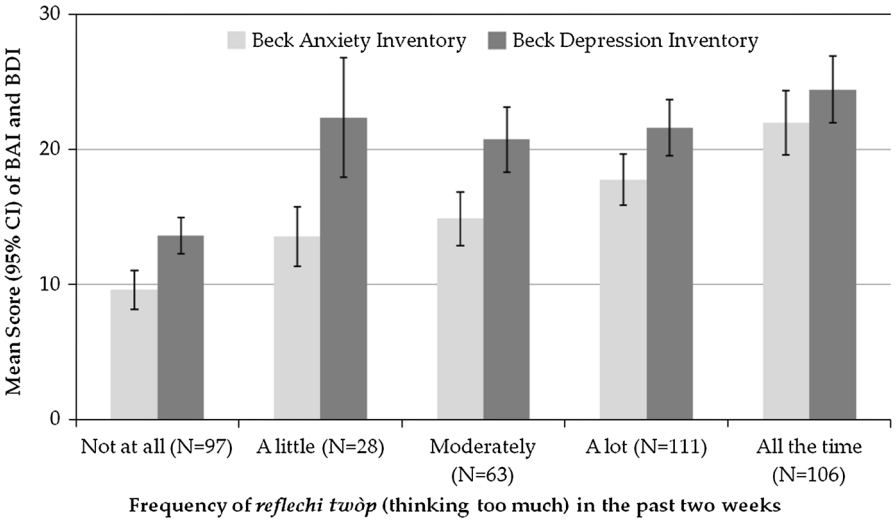

Fig. 1 Mean anxiety and depression symptom scores by frequency of *reflechi twòp* (thinking too much) in the past 2 weeks. *BAI* Beck Anxiety Inventory, *BDI* Beck Depression Inventory, *95 % CI* 95 % confidence interval, Spearman correlation of anxiety score (BAI) with "thinking too much," $\rho = 0.42$, $p < 0.001$. Spearman correlation of depression score (BDI) with "thinking too much," $\rho = 0.30$, $p < 0.001$

Table 3 Principal components analysis of items on the Kreyòl Distress Idioms screener: Factor loadings in rotated component pattern matrix

Idiom of distress	Translation	Component			
		1	2	3	4
Pèdi bon anj	Lost good angel, loss of control	0.91			
Tèt cho	Hot head, "on edge"	0.79			
Tèt pa la	Head not there, forgetfulness	0.65			
Dekontwole	Loss of control	0.49			
Reflechi twòp	Thinking too much		0.99		
Tèt chaje	Loaded head, worry, preoccupation		0.69		
Kè sere	Tight/bound heart, shock, sadness		0.50		
Tèt vire	Spinning head, dizziness		0.46		
Kè fè mal	Heart hurts, sadness, reflux			0.86	
Tèt fè mal	Headache			0.77	
Kè bat fò	Heart beating strong, racing heart			0.71	
De la la	Lack of energy, fatigue				0.96
Santi m prale	"I think I am going," fear, dread				0.88

Components extracted using principal components analysis with Promax rotation. Only factor loadings with an absolute value equal to or greater than 0.40 are shown

2005; Mains 2011). The association of "thinking too much" with sequelae such as diminished appetite, trouble sleeping, and physical illness are also common (Abbo et al. 2008; Avotri and Walters 1999; D'Avanzo and Barab 1998; Hinton and Earnest 2010; Kirmayer et al. 2009).

Just as "thinking too much" is potentially situated between sadness and fou, other authors have described "thinking too much" as being itself a spectrum or constituting part of a spectrum of mental disorder (Hinton et al. 2012; Karasz 2005; Kirmayer et al. 2009; Pedersen et al. 2010), sometimes ending in psychosis (Abbo et al. 2008; Mann 2010; Muecke 1994; Pedersen et al. 2010; Roberts et al. 2009). In some settings "thinking too much" was thought to lead to death (Eberhardt 2006; Goodman 2004; Hinton and Earnest 2010; Hollan and Wellenkamp 1994; Nepveux 2009), which we did not find in our interviews in the Central Plateau. However, Bolton et al. (2012) have reported this finding in another region of Haiti.

A noteworthy distinction is that almost all references to causation in Haiti were tied to structural factors in some way, including poverty, unemployment, and lack of opportunity. As of 2010, 40.6 % of residents are unemployed in Haiti, and more than two-thirds of the labor force do not have formal jobs. Although slight economic recovery was initiated in 2011, in 2012 GDP growth dropped in half following two devastating hurricanes that hindered agricultural output (Tricco et al. 2012). Given the infrastructural context, these epidemic levels of poverty and underemployment may heavily influence an individual's perceptions of failure and lack of future opportunity. In addition to similar structural causes, in other settings "thinking too much" is often tied to relationships and traumatic experiences (Avotri and Walters 1999; Goodman 2004; Hollan and Wellenkamp 1994; Okello and Ekblad 2006; Pedersen et al. 2010; Roberts et al. 2009). Because our study did not elicit information about "thinking too much" etiology in a systematic way, it is unclear whether such causes are not relevant in Haiti or simply did not arise during our interviews. Bolton et al. (2012) have reported factors such as illness and political violence as causes of "thinking too much" in northern Haiti.

Unlike many settings in Southeast Asia, where "thinking too much" is seen to represent a moral failing to uphold balance and harmony in one's mind, reflechi twòp does not appear to be particularly stigmatizing in Haiti (Eberhardt 2006; Frye and McGill 1993; Merkel 1996). However, attributions of spiritual causation can lead to stigma, since spirits can be "sent" for some perceived underlying moral failure on the part of the victim (Lecomte and Raphaël 2010). Elana's mother may have felt compelled to focus the etiology of Elana's illness away from spirits in order to deny the possibility that she is "guilty" in the eyes of community members. Still, in much of our fieldwork, we have found that assigning spiritual causation is sometimes done to *deflect* blame (Khoury et al. 2012). Affirming spirit attacks can shift the cause of mental illness away from perceived personal failings or traits to forces beyond an individual or family's control. From a broader perspective, these causal pathways are reflective of the "ontological insecurity" so characteristic of the poor in Haiti, where the fundamental grounds of self, body, and social fabric are threatened by chronic and acute stressors (James 2008). Whether originating within an individual or in the realm of the spiritual, the etiology of spirit attacks and its

potential relationship to "thinking too much" should be understood in the context of the social and structural vulnerabilities faced by rural Haitians.

"Thinking Too Much" and Psychiatric Conditions

"Thinking too much" strongly overlaps with both anxiety and depression. This parallels descriptions of "thinking too much" in other cultural settings. A number of studies have specifically related "thinking too much" to symptoms of depression and/or anxiety, particularly in Africa (Abas et al. 1994; Abbo et al. 2008; Avotri and Walters 1999; Betancourt et al. 2011; Okello and Ekblad 2006). Most of the parallels drawn between the idiom and psychiatric constructs are descriptive, but several studies used screening instruments or clinical diagnosis to demonstrate associations between them (Bass et al. 2012; Okello et al. 2012; Patel et al. 1995; Stranix-Chibanda et al. 2005).

"Thinking too much" may capture the common ground of depression or anxiety observed in European-originated psychiatric categorization (Ormel et al. 1995). Nolen-Hoeksema (2000) argues that rumination may be a key reason behind the common co-morbidity of anxiety and depression. In African settings such as Zimbabwe and Ethiopia, Patel et al. (1995) and Mains (2011), respectively, indicate that "thinking too much" falls between depression and anxiety and cannot be distinguished as one or the other. Patel (2001) further suggests that in clinical settings in India and other low- and middle-income countries, distinguishing between anxiety and depression is not useful, as the experiences are strongly intertwined. Such a claim is supported by the phenomenology of reflechi twòp in Haiti. The cross-cultural construct of "thinking too much" may also suggest why cognitive interventions are effective for treatment of both anxiety and depressive disorders (Beck 2011), as well as some pharmacologic treatments such as selective serotonin reuptake inhibitors (Deshauer et al. 2008; Zohar and Westenberg 2000).

In the case of Elana, her symptoms of isolation, failure to engage in activities of daily living, and problems sleeping, eating, and concentrating certainly share features of major depression as it conceptualized in the DSM. At the same time, Elana described her daily suffering as stemming mainly from her rumination on her current condition, a symptom that may be more closely associated with anxiety. However, distinguishing whether her "sitting and thinking" stems more from depression or anxiety may not be as useful for Elana as finding effective and engaging treatments, as explored below. Elana's widespread symptoms, including those similar to depression, anxiety, and thought disorder (i.e., command auditory hallucinations and paranoia) seem to support the notion put forward by some respondents that reflechi twòp may represent a "spectrum of mental disorders" and a complex cultural syndrome.

This does not exclude the possibility of unique aspects of depression and anxiety that do not overlap with one another nor with "thinking too much." These non-"thinking too much" depression or anxiety clusters are suggested by the three other factors of the KDI screener. Moreover, other studies in low- and middle-income country settings have found that anxiety and depression have different precipitating

factors and trajectories over time (Diabetes Prevention Program Research Group et al. 2009; Kohrt et al. 2008).

"Thinking too much" may also represent a vulnerability state for more severe psychiatric symptoms related to psychosis, panic, and suicide. Literature on *nervios* and *ataque de nervios* among Puerto Ricans, *khyal* attacks among Cambodian refugees, multiple trauma idioms among West Africans, and heart-mind problems among Bhutanese and Nepalis also demonstrate ethnopsychologies where moderate idioms and cultural syndromes can progress to severe mental health problems (Hinton et al. 2010; Ivers et al. 2011; Jerome and Ivers 2010; Kohrt and Harper 2008; Kohrt and Hruschka 2010; Mukherjee and Eustache 2007).

Treatment Implications for "Thinking Too Much"

As with characterizations of "thinking too much," solutions proposed by informants across settings are largely similar to those found in our study. These include recommendations not to isolate oneself (D'Avanzo and Barab 1998; Fenton and Sadiq-Sangster 1996; Frye and D'Avanzo 1994; Nepveux 2009; Roberts et al. 2009) and to engage in activities and busy oneself so as to avoid thinking (Frye and D'Avanzo 1994; Goodman 2004; Hollan and Wellenkamp 1994; Mains 2011; Mann 2010; Muecke 1994). Others suggested talking to friends or family about their problems (Avotri and Walters 1999; Harms et al. 2009; Karasz 2005), seeking spiritual help (Frye 1991; Muecke 1994; Nepveux 2009; Yarris 2011), and using medications to ameliorate associated symptoms (Avotri and Walters 1999; Fenton and Sadiq-Sangster 1996). While some participants reported trying to suppress or avoid troubling thoughts (Goodman 2004; Harms et al. 2009; Hollan and Wellenkamp 1994; Mann 2010; Muecke 1994; Okello and Ekblad 2006), others felt that recommendations to stop "thinking too much" are unhelpful and unrealistic (Fenton and Sadiq-Sangster 1996; Schatz and Gilbert 2012).

In other settings, successful interventions for "thinking too much" have included the use of locally relevant training materials that utilize existing idioms of distress and incorporate traditional healers and community leaders in the design of interventions (Abas et al. 1994). Such approaches could be particularly successful in Haiti, where individuals suffering from mental distress are more likely to seek care from such community-based supports rather than biomedical care providers (Wagenaar et al. 2013). Other idioms have been used successfully in identification of those in need of psychosocial care (Kohrt and Harper 2008; Thorpe et al. 2010; Tinkle et al. 2013). Abramowitz (2010) describes how the idiom *open mole,* ("hole in the head")—a disease state brought on by chronic adversity and stress, often related to the Liberian Civil War—has been used by local NGOs to diagnose trauma-related mental illnesses. Although the term has been helpful for communicating distress, she also warns that local idioms can become appropriated in clinical encounters, leading to transformations of meaning. She argues that open mole has been converted from a locally meaningful idiom of distress into a gateway diagnosis for PTSD. This comes about through an abbreviated clinical interview, resulting in an overuse in psychopharmaceutical treatment, especially anti-psychotic

medication. Therefore, care must be taken when incorporating idioms into clinical care.

Because "thinking too much" is characterized by ruminating that is not aimed at identifying solutions, there is clear space for therapy that can support shifts toward more positive thought patterns. One potential avenue for intervention is cognitive behavior therapy (CBT) that focuses on positive cognition. There is evidence that CBT is appropriate for treatment of idioms of distress and cultural syndromes across cultural groups (Hinton et al. 2005). Studies of culturally adapted CBT, which include eliciting patients' ethnophysiology of cultural concepts of distress, show improvements, such as with *ataque de nervios* among Latinas and *khyal* attacks among Cambodian refugees (Ventevogel et al. 2012; WHO 2008b). CBT has also been recommended for use among Cambodian refugees because it can be used to restore balance and harmony of thoughts, thus countering feelings of hopelessness (Frye and McGill 1993). A pilot randomized controlled trial from Sri Lanka found that CBT administered by a psychiatrist was effective in treating medically unexplained symptoms indicative of psychological distress (Ali et al. 2013). CBT has led to improvements for "heart-mind" idioms of distress in a case series with Nepali Bhutanese refugees (Murray et al. 2011).

Other researchers have recommended this approach where mental distress is characterized by excessive thoughts and worries (Frye and McGill 1993; Okello et al. 2012). Behavioral activation, which assumes that positive cognition leads to positive feelings, may be particularly appropriate for addressing ruminating or "thinking too much" in low-income countries, as it is relatively simple and feasible for use in non-specialized health care settings (Ekers et al. 2008). Okello et al. (2012) recommend CBT in Uganda for comorbid HIV patients, where the most common symptom of depression is "having too many thoughts," because the therapy specifically works to promote more helpful ways of thinking, thus downplaying depressive thought content.

However, the lack of mental health professionals to implement such interventions can present a major challenge (Patel et al. 2007; Saxena et al. 2007). Nevertheless, there is growing evidence that CBT can be delivered by lay health workers. For example, it has been successfully used by community health workers to treat depression in rural Pakistan, resulting in less disability and improved social functioning in study participants, effects that were sustained after 1 year (Rahman et al. 2008). There is reason to believe that outcomes of CBT may be similar if implemented in Haiti's Central Plateau, given that this study was likewise conducted among a rural population with similar socioeconomic circumstances and limited access to professional mental health care.

Recognition of the broader context of "thinking too much" highlights further avenues for intervention. For example, particularly because crying is culturally discouraged, unusual or prolonged sadness is typically not recognized until it is manifested as "thinking too much." Additionally, it is perceived by some individuals that when "thinking too much" persists or becomes amplified, it can lead to fou. As mentioned above, this is similar to ethnopsychologies in other cultures that suggest a progression model of thinking too much, worries, or sadness to panic and psychosis if the former problems are not addressed (Hinton et al. 2010;

Jerome and Ivers 2010; Kohrt and Harper 2008; Mukherjee and Eustache 2007; Murray et al. 2011). Identifying those experiencing "thinking too much" might thus provide an avenue for secondary prevention. People who are labeled as fou are often teased or mocked so as to prompt the violent, atypical behavior that is considered characteristic of fou (Khoury et al. 2012). It is important to identify those at risk of being labeled fou to prevent this cycle of socially induced aberrant behavior. Further research is needed to understand the potential association between "thinking too much" and fou and to identify the most effective forms of intervention.

Our survey and qualitative data indicate that depressive symptoms, including suicidal ideation, are reported at a significant level in the Central Plateau (Hagaman et al. 2013; Kaiser et al. 2013; Wagenaar et al. 2012). Reflechi twòp is associated with 8-fold greater odds of suicidal ideation and may be helpful to identify those at risk. Identification of those in need of care should include both clinical and community-based providers, as we found that individuals endorsing depressive symptoms or suicidal ideation were more likely to seek care from family, religious leaders, and Vodou priests (Wagenaar et al. 2013). Similar approaches have been taken in utilizing idioms of distress to provide appropriate, non-stigmatizing mental health care (Hinton and Hinton 2002; Kohrt and Harper 2008; Kohrt and Hruschka 2010).

Because idioms of distress often reflect the social imbalances between the powerful/dominating and the powerless/dominated (Rechtman 2006), incorporating local illness nosologies and healing systems within mental health interventions can potentially empower those who have long faced stigma and disenfranchisement within their societies. By increasing clinicians' and lay health workers' ability to recognize and provide support for psychosocial suffering, the country's capacity to provide much-needed mental health services will begin to grow. Utilizing the concept of reflechi twòp may serve as a meaningful tool for healthcare workers and health educators, particularly at the community level, to prompt faster recognition, referral, and intervention to prevent or alleviate long-term psychosocial suffering.

The provision of reliable mental health services in rural Haiti remains an issue of great concern that has yet to be addressed. However, due to the chronic structural factors that continue to trigger experiences of "thinking too much" and other expressions of distress, therapeutic interventions alone will likely fail to improve the burden of mental illness. Such root causes demand larger economic, social, and political responses beyond simply the provision of appropriate mental health services. Fundamentally, the need to address broader structural factors has been advocated as the ultimate solution for "thinking too much" (Hinton and Earnest 2010; Mains 2011; Okello and Ekblad 2006; Yarris 2011).

Limitations

As this paper represents a first report of this cultural syndrome in Haiti, more work is required before any recommendations are ready for implementation. First, although we were interested in idioms of distress generally, our data collection did not aim specifically to elicit information about "thinking too much." A more rigorous elicitation process might have yielded additional insight, for example

regarding whether "thinking too much" can lead to death or suicidal ideation. Future research would benefit from closer examination of nuances among the terms used to describe "thinking too much." Second, the research team members were not fluent Kreyòl speakers, and use of a translator might have led to miscommunication that could have been avoided otherwise. Third, idioms such as "thinking too much" likely have regional variations, so these findings cannot be assumed to apply in other settings within Haiti. Although it represents a strong communicative tool, practitioners and researchers in Haiti may encounter varied interpretations. Finally, only one-quarter of our survey sample indicated *no* experience of reflechi twòp, with roughly half of respondents indicating that they had experienced it "a lot" or "all the time" over the past 2 weeks. Further research is thus needed to understand degrees of severity and identification of those most in need of psychosocial support, including development of a screening tool with optimal sensitivity and specificity.

Conclusion

Reflechi twòp (thinking too much) is a Kreyòl idiom associated with a cultural syndrome in the Central Plateau of Haiti. The syndrome is characterized by rumination, isolation, and trouble sleeping, among other symptoms. The relation between reflechi twòp and *fou* (psychosis) is an area that deserves further study. It may be, as our findings suggest, that reflechi twòp is associated with fou; however, the direction and mechanisms of this association warrant further study. Reflechi twòp in Haiti has strong overlap with "thinking too much" conditions described in many other regions of the world, including Africa, Asia, and Central and South America. The strong overlap with both depression and anxiety symptoms suggests that "thinking too much" in Haiti parallels a general category of neurotic illness as has been suggested regarding "thinking too much" conditions in other cultural groups. Through understanding the concept of "thinking too much," mental health providers and other clinicians can better address patients' needs, as well as identify potential avenues for intervention aimed at prevention and treatment employing existing community resources.

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