



# Articulating biological and social approaches in child and adolescent psychiatry

Sélim Guessoum

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# Université Paris Cité

**Ecole doctorale « Cognition, Comportements, Conduites Humaines »**

**(ED261)**

*Laboratoire PCPP*

## **Articuler approches biologiques et sociales en psychiatrie de l'enfant et de l'adolescent**

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Thèse de doctorat de Psychologie

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## **Titre : Articuler approches biologiques et sociales en psychiatrie de l'enfant et de l'adolescent**

### **Résumé :**

La psychiatrie de l'enfant et de l'adolescent a été fondée sur de multiples champs de recherche et théories, dont les neurosciences, la physiologie, la psychologie (développementale, psychodynamique, systémique, cognitivo-comportementale, etc), l'anthropologie, la sociologie ou les sciences de l'éducation. L'intégration des connaissances transdisciplinaires dans des modèles à plusieurs niveaux est un défi à relever pour l'avenir, mais n'est pas immédiatement applicable dans la pratique clinique et la recherche. Articuler les approches biologiques et sociales en psychiatrie de l'enfant et de l'adolescent est un défi quotidien pour les cliniciens et les chercheurs. La recherche est souvent limitée à des domaines spécifiques alors que la pratique clinique en situation réelle nécessite une approche pluraliste. Les designs de recherche, les instruments et la formation clinique doivent fournir des connaissances applicables à une pratique clinique quotidienne qui est nécessairement pluraliste. Cette thèse propose des perspectives sur la manière d'articuler les approches biologiques et sociales : approche pluraliste et interventions multimodales ; pluralisme et complémentarisme de la description clinique à la recherche ; construction d'instruments appropriés ; offre de soins de santé mentale ; formation des psychiatres. Des propositions pour articuler les approches biologiques et sociales sont formulées : (I) Indiquer que l'objet de la recherche peut être abordé sous différents angles cliniques, de recherche et théoriques et expliquer celui choisi ; (II) proposer des articles de synthèse qui articulent les connaissances biologiques et sociales ; (III) concevoir des études biologiques qui tiennent compte des facteurs culturels ; concevoir des études sociales qui tiennent compte des facteurs biologiques ; (IV) concevoir des outils transculturels ; (V) concevoir des interventions thérapeutiques pluralistes, c'est-à-dire des thérapies et des dispositifs de soins de santé mentale qui articulent les approches biologiques et sociales ; (VI) développer des formations aux approches pluralistes.

### **Mots clefs :**

psychiatrie de l'enfant et de l'adolescent, psychiatrie transculturelle, psychiatrie biologique, psychiatrie sociale, pluralisme, complémentarisme, recherche, formation en psychiatrie



## **Title : Articulating biological and social approaches in child and adolescent psychiatry**

### **Abstract :**

Child and adolescent psychiatry has been based on multiple research fields and theories, including neurosciences, physiology, psychology (psychodynamic, systemic, cognitive-behavioral, psychoanalysis, etc), anthropology, sociology or education sciences. Integrating transdisciplinary knowledge in multi-level models is an ongoing challenge for the future, that is not immediately applicable in clinical practice and research. Articulating biological and social approaches in child and adolescent psychiatry is a daily challenge for clinicians and researchers. Research is often limited to specific fields whereas real-life clinical practice needs a pluralistic approach. Research designs, tools and clinical training need providing knowledge applicable to the necessarily pluralistic daily clinical practice. This thesis provides some perspectives on how to articulate biological and social approaches: pluralistic approach and multimodal interventions; pluralism and complementary frames of reference from clinical description to research; building appropriate tools ; providing articulated mental health care; training mental health professionals to pluralistic care. Suggestions to better articulate biological and social approaches are provided: (I) State that the research object can be approached from different theoretical, research and clinical angles and explain the one chosen ; (II) Propose synthesis articles that gather biological and social knowledge ; (III) Design biological studies that take into account cultural factors ; design social studies that take into account biological factors ; (IV) Design transcultural tools ; (V) Build pluralistic interventions, i.e. therapies and mental health settings that articulate biological and social approaches ; (VI) Develop trainings in pluralistic articulated care.

### **Keywords :**

child and adolescent psychiatry, transcultural psychiatry, biological psychiatry, social psychiatry, pluralist, complementarism, research design, psychiatry training

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# 1. Introduction

La psychiatrie de l'enfant et de l'adolescent est la spécialité médicale qui entend traiter les troubles de la pensée, des émotions et/ou du comportement affectant les enfants, les adolescents et leurs familles. Articuler les approches biologiques et sociales est nécessaire pour répondre à la réalité de la complexité des patients et de leurs troubles. Comme exemples de cette tension entre les approches biologiques et sociales, les trois cas suivants peuvent être cités : (1) La possession par les esprits (djinn) chez un adolescent issu d'une culture musulmane peut être un syndrome non psychotique culturellement signifiant ou un véritable trouble psychotique, ou les deux intriqués, ce qui peut conduire à des erreurs de diagnostics (ou *misdiagnoses*) ; (2) L'anorexie mentale a des corrélats neurobiologiques clairs, y compris une forte composante génétique ; mais la thérapie familiale, qui se concentre sur les facteurs environnementaux, familiaux et sociaux, est un traitement de médecine fondée sur les preuves (*Evidence-based Medicine*) (de Jorge Martínez et al., 2022; Gorwood et al., 2016; Lock & Le Grange, 2019) ; (3) Les troubles du spectre autistique sont progressivement expliqués grâce à une connaissance approfondie aux niveaux génomique, moléculaire, cellulaire et des circuits neurologiques, mais les interventions thérapeutiques se concentrent principalement sur les niveaux interactionnel et communicationnel, avec les patients et les familles (Fuentes et al., 2021; Willsey et al., 2022).

La psychiatrie de l'enfant et de l'adolescent a été influencée par de multiples théories et domaines de recherche, notamment les neurosciences, la physiologie, la psychologie (cognitive et comportementale, développementale, psychodynamique, systémique, etc.). Dans l'histoire de la psychiatrie de l'enfant et de l'adolescent, les 70 dernières années ont été marquées par la disparition des "grandes" théories qui prétendaient fournir des explications globales et par le développement de multiples domaines de recherche qui proposent des stratégies pour résoudre des questions spécifiques (Rutter & Stevenson, 2009). Plusieurs domaines de la psychiatrie de l'enfant et de l'adolescent évoluent simultanément, avec des théories, des concepts, des représentations et des interventions thérapeutiques distinctes.

Dans cet article, nous choisissons de schématiser la diversité des approches en deux catégories : les approches (psycho)biologiques et les approches (psycho)sociales. Les approches biologiques renvoient à la conception de la psychiatrie en tant que science médicale basée sur la biologie, la physiologie et les neurosciences, ancrée dans l'idée que la biologie fonde la pratique médicale et que les autres sciences contribuent au rôle essentiel de la biologie, mais ne peuvent pas le remplacer (Guze, 1989). Les approches biologiques ont apporté des avancées majeures en psychiatrie de l'enfant et de l'adolescent, par exemple, les nombreuses recherches sur l'utilisation des psychostimulants pour le traitement du Trouble Déficit de l'Attention / Hyperactivité (Rutter & Stevenson, 2009). Les approches sociales renvoient aux domaines de la psychiatrie qui se rapportent aux sciences humaines, à l'anthropologie et

à la sociologie ; elles reposent sur l'idée que les humains sont des êtres fondamentalement culturels et que les facteurs sociaux sont des déterminants clés de la santé (Kirmayer, 2019). Les approches sociales sont nécessaires en psychiatrie de l'enfant et de l'adolescent : l'enfant n'est pas seulement considéré comme un individu, il doit être appréhendé dans une perspective familiale, sociale et culturelle (Hirschberg, 1966).

La médecine fondée sur les preuves (*Evidence-Based Medicine*) a influencé les méthodes de recherche au cours des dernières décennies, favorisant la recherche quantitative, qui tend à exclure les facteurs culturels, donc les groupes minoritaires, pour obtenir des populations d'étude homogènes. Par conséquent, les données transculturelles en psychiatrie de l'enfant et de l'adolescent sont rares (Deriu et al., 2018 ; Martin et al., 2019). Fournir des connaissances en matière de recherche scientifique qui répondent aux besoins pluralistes de la pratique clinique est un défi pour la psychiatrie de l'enfant et de l'adolescent, de même que fournir des interventions tenant compte de l'état de l'art dans ces deux champs. L'approche pluraliste stipule que de multiples méthodes indépendantes sont nécessaires pour comprendre et traiter les maladies mentales et que nulle méthode unique n'est suffisante (Ghaemi, 2004).

La mise en œuvre d'une approche pluraliste en psychiatrie de l'enfant et de l'adolescent est un défi car les obstacles sont nombreux : il existe des difficultés majeures pour identifier et traiter les maladies en psychiatrie de l'enfant et de l'adolescent ; les objets de la psychiatrie de l'enfant et de l'adolescent sont multiples et hétérogènes (se référer par exemple aux développements de Kleinman sur les concepts de *disease, illness et sickness* (Kleinman, 2017; Young, 1982)); il existe un certain clivage entre les pédopsychiatres d'orientation biologique et les autres (Rey et al., 2015); unifier les théories est loin d'être résolu tandis qu'une simplification pragmatique est opérée pour les besoins de la pratique clinique et de la formation (Lantéri-Laura, 2004). Les modèles transdisciplinaires intégratifs sont prometteurs et audacieux, mais ils ne sont pas immédiatement applicables dans la pratique clinique (par exemple : les neurosciences sociales translationnelles (Ford & Young, 2021); les neurosciences culturelles (Chiao, 2009); la neurophénoménologie (Nelson et al., 2020)). Nous pensons qu'il existe des frontières inadéquates entre les approches biologiques et sociales.

L'objectif de cette thèse est de fournir des perspectives pratiques sur la manière d'articuler les approches biologiques et sociales en psychiatrie de l'enfant et de l'adolescent.

Dans ce travail de thèse, nous explorerons d'abord brièvement certaines définitions centrales telles que les notions d'approche pluraliste et complémentariste. Puis, dans une première partie, nous discuterons des besoins d'articulation des approches biologiques et sociales en recherche. Nous y présenterons l'exemple de la lycanthropie clinique, syndrome délirant rare qui présente des corrélats

neurobiologiques mais survient dans un contexte socioculturel donné. Nous y décrivons par l'exemple la manière dont on peut rassembler plusieurs approches, de manière pluraliste, dans une même revue systématique de littérature. Dans une seconde partie, nous décrivons l'importance de la constitution des outils d'évaluation (questionnaires et échelles) pour proposer des recherches et des évaluations cliniques cohérentes, non seulement avec les enjeux des approches biologiques, mais aussi avec les approches sociales et les diversités culturelles des populations. Nous illustrerons notre propos en présentant une recherche portant sur le bilinguisme des enfants de migrants. Dans une troisième partie, nous discuterons de la construction et de la mise en œuvre d'interventions thérapeutiques pluralistes. Nous présenterons une recherche qualitative portant sur une co-thérapie multimodale pour les mineurs non accompagnés. Enfin, nous discuterons de la question de la formation des psychiatres à ces approches biologiques et sociales.

## 2. Définitions

Les approches biologiques et sociales ont des théories et des concepts différents (*self*, troubles, émotions, etc.), mais aussi des méthodes différentes. La recherche en sciences biologiques est plus souvent quantitative et nomothétique, c'est-à-dire qu'elle fournit des connaissances standardisées et généralisables sur les troubles. La recherche en sciences sociales est souvent qualitative et idiographique, c'est-à-dire qu'elle fournit des connaissances approfondies et non chiffrables sur l'expérience des patients (Amir & McAuliffe, 2020 ; Oulis, 2013). Cependant, il existe également de nombreuses études quantitatives et nomothétiques en sciences sociales. Les méthodes nomothétiques ne prennent pas en compte les facteurs singuliers et subjectifs impliqués dans les troubles des patients. Au contraire, les méthodes idiographiques, en partant du patient et de ses singularités, peuvent aider à identifier l'expérience socioculturelle de la souffrance psychique.

Nous discutons des définitions de trois concepts fondamentaux ici : complémentarisme, pluralisme, et intégratif. Des définitions supplémentaires des concepts fondamentaux sont disponibles en **Annexe 2** (page 133).

Le complémentarisme est un concept issu de l'école française de psychiatrie transculturelle de George Devereux : il énonce la nécessaire utilisation non simultanée de plusieurs méthodes (à l'époque, l'anthropologie et la psychanalyse) (Devereux et al., 1972). Selon George Devereux : « L'ethnopsychiatrie est, en premier lieu, une épistémologie et une méthodologie, dont la pierre angulaire est le complémentarisme : le principe qui exige une séparation inconditionnelle entre le discours psychologique et le discours socioculturel, tout en affirmant qu'un fait humain ne devient scientifiquement et, (...) aussi cliniquement exploitable, que lorsque le fait en question est rendu complètement compréhensible à la fois dans le cadre du raisonnement psychologique et dans celui du raisonnement socioculturel. » (Devereux, 1978). Le complémentarisme exige une séparation inconditionnelle entre les discours des disciplines. Dans cette thèse, nous discutons de la manière de relier ces discours.

La psychiatrie intégrative vise à fournir une approche synthétique des différents domaines de la psychiatrie (Oulis, 2013). Le terme est surtout utilisé en psychothérapie intégrative – le terme « éclectisme » est aussi employé par les spécialistes de psychothérapie intégrative – et se caractérise par « l'insatisfaction des approches uniques et le désir concomitant de regarder au-delà des frontières de chaque école pour voir ce qui peut être appris d'autres façons de mener une psychothérapie » (Norcross 2005).

Le pluralisme est, en philosophie, un concept « qui admet la nécessité de postuler plusieurs principes pour expliquer la constitution du monde, et affirme que les êtres qui le composent sont irréductibles à une substance unique et absolue » <sup>1</sup>. Nous nous référons dans cette thèse à l'approche pluraliste (*pluralistic approach*) développée dans le livre de Nasser Ghaemi, *The Concepts of Psychiatry : A Pluralistic Approach to the Mind and Mental Illness* (2004). L'approche pluraliste stipule que de multiples méthodes indépendantes sont nécessaires pour comprendre et traiter la maladie mentale et qu'aucune méthode n'est suffisante (Ghaemi, 2004). Dans les approches pluralistes, les différences conceptuelles sont assumées comme nécessaires pour comprendre les phénomènes mentaux et cérébraux (Ghaemi, 2004). Les psychiatres et autres soignants peuvent combiner des actions issues de différents domaines et théories, en appréciant lesquelles sont pertinentes dans un cas donné (et non en appliquant un peu de chacune pour tous les troubles).

Schématiquement, deux options sont possibles :

(1) Adopter une approche pluraliste avec des concepts et des méthodes de recherche distincts. Par conséquent, on peut étudier un même thème avec deux ou plusieurs méthodes dans des protocoles de recherche distincts. Par exemple, on peut réaliser, d'une part, des études d'approche biologique sur la dépression des adolescents et, d'autre part, des études d'approche sociale sur ce sujet (Rose-Clarke et al., 2021 ; Zajkowska et al., 2021). Les objets, les méthodes et les théories sont alors différentes. Autre exemple, au sein d'une même équipe, en psychiatrie adulte, nous avons réalisé d'une part une recherche épidémiologique quantitative et d'autre part une recherche psychologique qualitative sur la santé mentale des soignants durant de la pandémie de COVID-19 :

- 1) D'une part un angle qualitatif et idiographique de l'expérience psychologique singulière des soignants mobilisés dans une unité COVID donnée :

**The experience of anaesthesiology care providers in temporary intensive care units during the COVID-19 pandemic in France: a qualitative study**

**Sélim Benjamin GUESSOUM, Maxime MARVALDI, Isaiah THOMAS, Jonathan LACHAL, Emilie CARRETIER, Marie Rose MORO, Laelia BENOIT**  
Anesthesia Critical Care & Pain Medicine, 2022 (**impact factor : 7**)

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<sup>1</sup> Centre National de Ressources Textuelles et Lexicales, définition de « pluralisme » ([www.cnrtl.fr](http://www.cnrtl.fr))



- 2) D'autre part un angle quantitatif et nomothétique, sur les données épidémiologiques sur la santé mentale des soignants durant la pandémie de COVID-19 :

**Anxiety, depression, trauma-related, and sleep disorders among healthcare workers during the COVID-19 pandemic: A systematic review and meta-analysis, Maxime MARVALDI, Jasmina MALLET, Caroline DUBERTRET, Marie Rose MORO, Sélim Benjamin GUESSOUM**

Neuroscience & Biobehavioral Reviews, 2021 (**impact factor : 9**)

(2) Construire des modèles intégratifs (intégratif au sens de *synthétique* et non de *éclectique*) dont les théories englobent des domaines traditionnellement séparés. Cette deuxième option nécessite une refondation théorique. Il s'agirait, à notre avis, de la mutation la plus ambitieuse et la plus importante pour l'avenir de la psychiatrie (Kirmayer et al., 2020). Tout comme les processus biologiques, les facteurs sociaux influencent le développement du cerveau. Par exemple, les enfants en situation d'isolement social grave présentent un développement cérébral anormal et des troubles du langage (Kirmayer & Crafa, 2014). Proposer des modèles sociobiologiques pourrait constituer l'avenir de la psychiatrie de l'enfant et de l'adolescent (Baptista et al., 2021). Cependant, dans l'attente de leurs applications, les cliniciens et les chercheurs ont besoin de perspectives pour faire face à la coexistence des approches sociales et biologiques.

En résumé, nous pouvons simplifier les définitions ainsi :

- Le complémentarisme est une méthode qui postule l'utilisation obligatoire mais non simultanée de deux approches théoriques, il a pour principe une séparation inconditionnelle entre le discours psychologique et le discours socioculturel.
- L'approche intégrative peut soit être considérée comme une approche synthétique des différents domaines et interventions de la psychiatrie, soit comme une approche éclectique en psychothérapie.
- L'approche pluraliste postule que de multiples méthodes indépendantes sont nécessaires à la compréhension et au traitement des maladies mentales.

Dans cette thèse, nous utilisons le terme « approche pluraliste » pour désigner l'usage de plusieurs méthodes, articulées rationnellement, non simultanément mais avec un chevauchement possible, en suivant à la fois les principes de la médecine fondée sur les preuves et de la médecine centrée sur le patient. Dans le paragraphe suivant, nous questionnons la mise en œuvre de ce pluralisme en recherche.

### **3. Recherche : articulation des approches biologiques et sociales de la description clinique à la recherche**

L'articulation des approches sociales et biologiques doit se faire dès les phases de description clinique. Sinon, si les psychiatres suivent une approche critériologique descriptive standard, seule une partie de l'expérience des patients - les aspects objectifs, standardisés et généralisables - sera rapportée et cela conditionnera les perspectives de recherche. De plus, l'expression de la détresse mentale varie au sein des populations et entre les cultures en fonction de facteurs sociaux et biologiques, et se caractérise également par des présentations culturelles singulières qui imposent une évaluation sociale aux psychiatres (par exemple le syndrome de Hikikomori chez les adolescents (Kato et al., 2012).

Rassembler les connaissances socioculturelles et les connaissances neurobiologiques sur un sujet dans une seule synthèse n'est pas une démarche évidente. Nous pensons qu'elle devrait être faite plus fréquemment. Nous avons rencontré un adolescent présentant un syndrome appelé lycanthropie clinique. La lycanthropie clinique est un syndrome dans lequel les patients ont la conviction délirante de se transformer en loup (Guessoum et al., 2020 ; Guessoum et al., 2021). Nous avons publié ce cas clinique avec revue de la littérature sur les cas de lycanthropie clinique chez l'adolescent (**Article 1**).

#### **Article 1. First Reported Case of Clinical Lycanthropy in a 12-Year-Old Adolescent: From Culture-Bound Syndromes to Internet-Mediated Delusions**

**Sélim Benjamin GUESSOUM, Jasmina MALLET, Fumie TODO, Jean-Pierre BENOIT, Marie Rose MORO**

Psychiatry and Clinical Neurosciences, 2021 (**impact factor : 12.1**)

Ce cas illustre pourquoi, selon nous, ce syndrome doit être regardé selon une approche biologique et une approche sociale, justifiant l'intégration du cas clinique dans cette thèse. Ce cas clinique intègre une revue systématique de la littérature sur les cas de lycanthropie clinique chez les adolescents. Cependant, les données étant limitées, nous avons décidé d'élargir la revue de la littérature sans limite d'âge des patients (**Article 2**).

#### **Article 2. Clinical Lycanthropy, Neurobiology, Culture: A Systematic Review**

**Sélim Benjamin GUESSOUM, Laelia BENOIT, Sevan MINASSIAN, Jasmina MALLET, Marie Rose MORO**

Frontiers in Psychiatry, 2021 (**impact factor : 5.4**)

Cet article est une illustration de revue systématique de la littérature rassemblant les connaissances médicales d'un même syndrome sous deux angles théoriques : d'une part les connaissances biologiques et d'autre part les connaissances sociales. Cet article propose donc au lecteur de regarder ce syndrome sous deux angles séparés mais complémentaires, dans l'espoir que tout lecteur puisse concevoir la lycanthropie clinique comme un syndrome avec des corrélats neurobiologiques, mais qui apparaît dans un contexte socioculturel donné.

Nous espérons qu'en conséquence, tout lecteur sur ce thème bénéficiera d'une représentation de la lycanthropie clinique qui intègre les deux approches. Il constitue, nous espérons, une illustration de la manière dont les choix dans la description des connaissances peut offrir un regard pluraliste au clinicien ou au chercheur.

Par ailleurs nous avons aussi publié une lettre à l'éditeur comme réponse à un cas clinique publié dans *Psychiatry Research* et qui présentait la lycanthropie clinique sous un angle exclusivement psychanalytique. Nous y présentons les principales hypothèses neurobiologiques liées à la lycanthropie clinique (**Article 3**).

### **Article 3. The Neurobiological Hypotheses on Clinical Lycanthropy**

**Sélim Benjamin GUESSOUM, Jasmina MALLET, Marie Rose MORO**

**Psychiatry Research, 2020 (impact factor : 11.2)**

Les prochaines étapes consistent à proposer des perspectives multi-niveaux qui incluent le cerveau et son environnement (Kirmayer et al., 2020).

Nous formulons les propositions suivantes : (1) inclure toutes les données socioculturelles et biologiques disponibles dans les descriptions cliniques et les *case reports*. Les psychiatres devraient faire preuve de la même précision dans la description des caractéristiques (neuro)biologiques que les premiers psychiatres dans leurs observations cliniques méticuleuses, ainsi que des caractéristiques socioculturelles ; (2) les études biologiques devraient tenir compte du contexte social ; les études sociales devraient tenir compte du contexte biologique ; (3) les synthèses scientifiques (par exemple les revues de littérature) devraient rassembler les données biologiques et sociales.

Cependant, pour développer des recherches qui articulent approches biologiques et sociales, des instruments (questionnaires, échelles) appropriés sont nécessaires, ce que nous discutons dans le paragraphe suivant.

# **Article 1. First Reported Case of Clinical Lycanthropy in a 12-Year-Old Adolescent: From Culture-Bound Syndromes to Internet-Mediated Delusions**

**First Reported Case of Clinical Lycanthropy in a 12-Year-Old Adolescent: From Culture-Bound Syndromes to Internet-Mediated Delusions**

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# First reported case of clinical lycanthropy in a 12-year-old adolescent: From culture-bound syndromes to Internet-mediated delusions?

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Clinical lycanthropy is a syndrome in which the patient has the delusional belief of turning into a wolf.<sup>1</sup> To our knowledge, it has never been reported as occurring during early adolescence. Clinical lycanthropy is a psychiatric syndrome, whereas 'werewolf syndrome' sometimes refers to some rare somatic conditions, such as severe hypertrichosis.<sup>2</sup>

The patient was a 12-year-old pubescent adolescent born in France. He had allegedly refused to take part in a school field trip because of the occurrence of a full moon. Two months prior, he had been admitted to the emergency department because he had scratched and bit other pupils. No family nor personal psychiatric history was found. The medical history reported supernumerary finger removal and febrile convulsions during infancy.

The patient had distant and inhibited contact, hypomimia, and thought blocking. He exhibited delusional ideas of wolf metamorphosis. He often heard werewolves telling him to 'join the pack.' He often looked at himself in the mirror, believing that his eyes had changed color and his teeth had lengthened. We excluded the hypothesis of a factitious disorder due to the anxiety we observed concerning these delusions, and the associated mild negative and depressive symptoms. His mother had discovered deliberately torn trousers.

Biological and neurological exams were normal. Antipsychotic treatment (1 mg risperidone) allowed progressive recovery within 2 weeks. Ethics and parental consent complied with the Declaration of Helsinki.

From a neuroscientific perspective, we conducted a review on PubMed of cases of lycanthropy and canthropy (dog transformation) of adolescents aged younger than 20 years (Table 1). Diagnoses reported were: schizophrenia, psychotic depression, and mania. For patients with follow-up, treatments were antipsychotic medications (for one patient, a mood regulator was added).

Clinical lycanthropy is one of the delusional misidentification syndromes, which are characterized by patients misidentifying a person, place, or object, and also include Capgras syndrome, Fregoli syndrome, reduplicative paramnesia, and intermetamorphosis.<sup>3</sup> Lesions localized in the right hemisphere and frontal lobe are reported in lesion-related delusional misidentification syndromes, but wider networks may be involved.<sup>1</sup> Clinical lycanthropy can also be conceptualized as a cenesthopathy.<sup>2,6</sup> There are no neuroscientific studies on zoanthropic syndromes (animal transformation).

Low-dose risperidone has shown efficacy in psychotic disorders in adolescents.<sup>7</sup> We initiated low-dose risperidone, and no dose increase was discussed due to its efficacy on the symptoms plus the occurrence of extrapyramidal secondary effects.

From a transcultural psychiatry perspective, zoanthropy has been observed on several continents. Wolf transformation has been reported throughout history in Western countries. The oldest known Western writings mentioning lycanthropy are found in the Greek myth of Lycaon. Some Byzantine physicians described lycanthropy as a form of melancholy or mania. In medieval and Renaissance times, lycanthropy was often attributed to satanic forces.<sup>2</sup> In Japan, cases of belief of possession by foxes have been reported.<sup>8</sup> As a transcultural example, the belief of possession by foxes (*kitsune-tsuki*) and the belief of possession by dog-like mythological beings (*inugami*) have been described in Japanese culture since the 12th century in *Konjaku Monogatari* (物集 [Anthology of Tales from the Past]). The delusion of possession by a fox was described as the most common animal possession in some populations of patients in Japan.<sup>9</sup> These examples show that the content of psychiatric symptoms, such as the type of animal-related delusion, could be influenced by the cultural background.

Today, people build their own cultures throughout the Internet. Digital culture allowed our patient to immerse himself in this mythical imagination via series and the Internet, as in two other recent clinical lycanthropy case reports.<sup>2, 5</sup> Surprisingly, research on the link between delusions and the Internet remains sporadic.<sup>10</sup> Studying the implication of digital technology on adolescents' psychiatric disorders and assessing their use in daily clinical practice seems highly relevant.

In adolescents' popular culture, werewolves are still represented in novels (the character Remus Lupin in J. K. Rowling's *Harry Potter*), manga (Kazumasa Hirai's *Urufu Gai* [Wolf Guy]), movies (Mamoru Osada's *Ōkami Kodomo no Ame to Yuki* [Wolf Children]), and series (Jeff Davis's *Teen Wolf*).

**Table 1.** Case reports of clinical lycanthropy (wolf transformation) or cyanthropy (dog transformation) in patients younger than 20 years

Reference	Diagnosis	Country	Age (years)	Gender	Treatment	
Present case	Schizophreniform disorder	France	12	♂	Antipsychotics (recovery, then lack of follow-up)	Lycanthropy
Rao <i>et al</i> <sup>3</sup>	Psychotic depression	India	17	♂	Antidepressant (fluoxetine; lack of follow-up)	Cyanthropy
Keck <i>et al</i> <sup>4</sup>	Mania (bipolar disorder), cannabis use	USA	18	♂	Antipsychotics, lithium	Lycanthropy
	Schizophrenia		19	♂	Antipsychotics	Lycanthropy
	Mania (bipolar disorder), obsessive-compulsive disorder		17	♂	Antipsychotics	Cyanthropy



Psychiatric transtheoretical reflections are needed. Neurobiological and cultural approaches are complementary. This case report also highlights the need for research on the influence of digital technology on adolescents' psychiatric disorders, especially psychotic disorders. Antipsychotic medications may be an efficient psychopharmacological treatment for this rare transnosographic delusional syndrome.

#### Disclosure statement

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## **Article 2. Clinical Lycanthropy, Neurobiology, Culture: A Systematic Review**

### **Clinical Lycanthropy, Neurobiology, Culture: A Systematic Review**

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#### **Résumé**

Background: Culture can affect psychiatric disorders. Clinical Lycanthropy is a rare syndrome, described since Antiquity, within which the patient has the delusional belief of turning into a wolf. Little is known on its clinical or therapeutic correlates.

Methods: We conducted a systematic review (PRISMA) on PubMed and Google Scholar, until January 2021. Case reports, data on neurobiological hypotheses, and cultural aspects were included. Language was not restricted to English.

Results: Forty-three cases of clinical lycanthropy and kynanthropy (delusion of dog transformation) were identified. Associated diagnoses were schizophrenia, psychotic depression, bipolar disorder, and other psychotic disorders. Antipsychotic medication may be an efficient treatment for this rare transnosographic syndrome. In case of depression or mania, the treatment included antidepressants or mood regulators. The neuroscientific hypotheses include the conception of clinical lycanthropy as a cenesthopathy, as a delusional misidentification of the self-syndrome, as impairments of sensory integration, as impairments of the belief evaluation system, and right hemisphere anomalies. Interestingly, there is a clinical overlap between clinical lycanthropy and other delusional misidentification syndromes. Clinical lycanthropy may be a culture-bound syndrome that happens in the context of Western cultures, myths, and stories on werewolves, and today's exposure to these narratives on cultural media such as the internet and the series. We suggest the necessity of a cultural



approach for these patients' clinical assessment, and a narrative and patient-centered care.

Conclusions: Psychiatric transtheoretical reflections are needed for complementaristic neurobiological and cultural approaches of complex delusional syndromes such as clinical lycanthropy. Future research should include integrative frameworks.





# Clinical Lycanthropy, Neurobiology, Culture: A Systematic Review

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**Keywords:** delusions, psychosis, lycanthropy, zoanthropy, cultural psychiatry, delusional misidentification syndrome (DMS), werewolf, transcultural psychiatry

## INTRODUCTION

Culture can affect psychotic symptoms, and psychotic symptoms can be culturally meaningful (1, 2). The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) incorporates structured information to reflect cross-cultural variations in the presentation of psychiatric disorders (3). However, dual neuroscientific and cultural approaches are scarce. In this systematic review, we

explore a specific delusional syndrome through both the neuroscientific and cultural perspectives.

Clinical Lycanthropy is a psychiatric syndrome within which the patient has the delusional belief of turning into a wolf. Zoanthropy is a psychiatric syndrome within which the patient has the delusional belief of turning into an animal. Zoanthropy is observed on all continents and animals can be lions, tigers, hyenas, sharks, or crocodiles, for example (4). Wolf transformations have been mentioned since Ancient Times in myths, in popular culture but also in the physician's observations (5). For example, in Greek mythology, Zeus transforms Lycaon, the king of Arcadia, into a wolf. The wolf has negative characteristics of a wicked and evil animal in the Western cultures and more positive ones in the Nordic cultures (6, 7). Wolves still have an important place in today's popular culture, and werewolves still are represented [e.g., *Harry Potter* (8), the series *Teen wolf* (9)].

Clinical lycanthropy is a relevant example of a challenging syndrome at the frontier between neuropsychiatric disorders and environmental, social, and cultural interactions. To which psychiatric disorders is clinical lycanthropy related? What are the neurobiological hypotheses on this syndrome? Is clinical lycanthropy related to a given cultural context? What is the management of this syndrome?

Clinical lycanthropy has been described but not elucidated since Ancient Times. A dual neuroscientific and cultural approach can help to better understand the clinical presentation of patients with psychiatric disorders and help to find relevant avenues of research.

Despite neurosciences still lacking the knowledge to explain the *content* of thoughts, twenty-first-century psychiatry has to take into account these themes and their cultural meaning because they are related to the patients' phenomenology, personal experience, and the patients' and families' storytelling. How would a patient adhere to a specific narrative as a delusional explanation of his/her psychotic experience? Lycanthropy is an example of a syndrome in which culture and environment are involved in the process of the neuropsychiatric disorders' clinical expression.

The objective of this systematic review is: (1) to review the reported cases of clinical lycanthropy; (2) to review the neuroscientific and etiological hypotheses on clinical lycanthropy; (3) to explore the cultural aspects of this syndrome in the medical literature.

## MATERIALS AND METHODS

A systematic review was conducted according to the PRISMA criteria (10). The research was led on Pubmed/MEDLINE on all available articles until January 2021 with the following words: "werewolf" OR "were-wolf" OR "lycanthropy" OR "clinical lycanthropy." The inclusion criteria were: case reports of wolf and dog metamorphosis delusions, not restrained to the English, in the psychiatric and neurological literature. The exclusion criteria were: other animal metamorphosis delusions, non-psychiatric and non-neurological conditions referred to as

"lycanthropy." All references were screened individually (abstract  $\pm$  full manuscript) to identify the case reports. Due to the scarcity of data, the case reports were included, even when they did not include data on the treatment and the outcome. Additional research was conducted on Google Scholar, and by cross-referencing the included studies and prior reviews. The cases from 1920 and earlier were extracted from Blom's review (11). The principal data collected were: age, gender, country, syndrome type, associate psychiatric diagnosis, treatment, and outcome. These data are synthesized in **Table 1**. There is a risk of bias due to the scarcity of case reports in the literature, and the absence of statistical data, as well as the unbalanced number of publications depending on the country. Additional analysis was led on the neurobiological hypotheses on clinical lycanthropy, and on cultural aspects available in the medical literature.

## RESULTS

We identified 43 case reports of clinical lycanthropy and kynanthropy (**Table 1**). Overall, 130 articles were screened in the initial research. Finally, 30 references were included, and 43 cases were identified. In the second part of the results, we present the neurobiological hypotheses of clinical lycanthropy. In the third part of the results, the cultural aspects highlighted in the medical literature are described. In **Supplementary Table S1**, we documented the other cases of zoanthropy.

### Case Reports: Clinical Presentation, Nosology, Treatment, Outcome

In total, 43 cases of lycanthropy or kynanthropy were identified, including 20 cases of lycanthropy, 4 cases of partial lycanthropy, and 19 cases of kynanthropy. These cases were reported between 1852 and 2020.

Thirty-eight cases of clinical lycanthropy and kynanthropy were found between 1970 and 2020. The diagnostic repartition of the case reports of clinical lycanthropy and kynanthropy is presented in **Figure 1**. The majority of the reported cases were psychotic and affective disorders: schizophrenia, psychotic depression, mania (bipolar disorder), and other psychotic disorders. Clinical lycanthropy can occur during a first psychiatric episode of adolescents and young adults (patients n° 1, 5, 6, **Table 1**). It can also occur in patients with chronic psychosis. Some cases reported were related to neurological conditions, including epilepsy (12, 22, 33). Clinical lycanthropy has also been reported as related to hallucinogenic drugs, alcohol, and epilepsy (40). For example, Keck et al. reported three cases of zoanthropy with electroencephalogram anomalies (29).

Clinically, lycanthropy can be associated with cenesthetic, sensory, visual, and acoustic hallucinations interpreted as related to transformation into wolves. For example, patient n° 18 (**Table 1**) had hallucinations of hair growth on his face, trunk, and arms, and facial malformations, thus avoiding seeing his face or body. He also believed that his mind was changing into a different mind. Notably, some cases of clinical lycanthropy can be associated with various degrees of suicidality (patients n° 4, 23, 25, **Table 1**).



**TABLE 1 |** Case reports of clinical lycanthropy and kynanthropy.

References	Diagnosis	Country	Age	Gender	Treatment	Outcome		Case n°
(Guessoum et al., 2020) (5)	Schizophreniform disorder	France <i>Ethnicity: Ivory Coast</i>	12	M	Antipsychotic ( <i>Low dose Risperidone</i> )	Remission	Lycanthropy	1
(Marques, 2019) (12)	Schizoaffective disorder (obstructive sleep apnea)	Portugal	41	M	Antipsychotic ( <i>Haloperidol</i> ) Antiepileptic ( <i>Valproate</i> ) Psychoeducation and weight lose	Remission	Lycanthropy	2
	Organic dissociative disorder (obstructive sleep apnea)	Portugal	52	M	Antipsychotic ( <i>Quetiapine, Trazodone</i> ) Psychoeducation and hypnotic treatment adjustment	Remission	Lycanthropy	3
(Groh et al., 2020) (13)	Schizophrenia	Germany	39	M	Antipsychotic ( <i>Risperidone</i> )	Remission	Lycanthropy	4
(Sayar et al., 2014) (14)	Psychotic disorder not otherwise specified	Turkey	21	M	Antipsychotic ( <i>Aripiprazole</i> )	Remission	Lycanthropy	5
(Shrestha, 2014) (15)	Chronic psychotic disorder	USA	20	M	Antipsychotic ( <i>Ziprasidone</i> )	Remission	Lycanthropy	6
(Blom, 2010) (16)	Schizophrenia	Morocco	26	M	Antipsychotic, antidepressants, antiepileptics ( <i>Quetiapine, Valproic Acid</i> )	Partial remission	Lycanthropy	7
(Younis and Moselhy, 2009) (17)	Psychotic depression ( <i>Severe depressive disorder with psychotic features</i> )	Iraq or UAE	21	M	–	–	Kynanthropy	8
		Iraq or UAE	26	F	–	–	Kynanthropy	9
		Iraq or UAE	27	F	–	–	Kynanthropy	10
		Iraq or UAE	30	F	–	–	Kynanthropy	11
		Iraq or UAE	72	M	–	–	Kynanthropy	12
	Acute psychotic episode	Iraq or UAE	36	F	–	–	Kynanthropy	13
	Schizoaffective disorder	Iraq or UAE	42	F	–	–	Lycanthropy	14
(Moghaddas and Naseri, 2004) (18)	Psychotic depression	Iran	20	M	Antipsychotic and antidepressant ( <i>perphenazine, fluoxetine</i> )	Partial remission	Lycanthropy	15
(Nejad and Toofani, 2005) (19)	Bipolar Disorder, mixed type with psychotic feature	Iran	32	M	Antipsychotic ( <i>Risperidone</i> ) Antiepileptic ( <i>Valproate</i> ) ECT	Remission	Kynanthropy	16
(Garlipp et al., 2001) (20)	Schizophrenia	Germany <i>Ethnicity: Poland</i>	37	F	Antipsychotic ( <i>Haloperidol</i> )	Partial remission	Dog-like delusional behavior	17
(Silva et al., 2000) (21)	Psychotic disorder not otherwise specified	USA	46	M	–	–	Partial lycanthropy	18
(Moselhy, 1999) (22)	Undetermined ( <i>several diagnoses received: personality disorder, psychopathic disorder, schizophrenia + DEAF</i> )	UK	25	M	–	–	Partial lycanthropy	19
	Bipolar disorder, mixed affective episode Epilepsy	UK <i>Ethnicity: Caucasian</i>	53	F	Antipsychotics ( <i>Trifluoperazine</i> ) Antiepileptic ( <i>Vigabatrin, Carbamazepine</i> )	Partial remission	Partial lycanthropy	20
(Rao, 1999) (23)	Psychotic depression, Bipolar disorder	Bangalore, India	21	M	Antipsychotic ( <i>Trifluoperazine</i> ) Mood regulator ( <i>Imipramine</i> stopped and introduction of <i>Lithium Carbonate</i> )	Remission	Kynanthropy	21
	Psychotic depression	Bangalore, India	17	M	Antidepressant ( <i>Fluoxetine</i> )	Lack of follow up	Kynanthropy	22

(Continued)

TABLE 1 | Continued

References	Diagnosis	Country	Age	Gender	Treatment	Outcome		Case n°
(Verdoux and Bourgeois, 1993) (24)	Psychotic depression Bipolar disorder Obsessive-compulsive personality disorder	France	45	M	1st episode: ECT 2nd episode: mood regulator, antidepressant, antipsychotic ( <i>lithium carbonate, fluoxetine, cyamemazine</i> )	Remission	Partial lycanthropy	23
(Koehler et al., 1990) (25)	Mania, bipolar disorder	Germany <i>Ethnicity: Black</i>	33	M	Antipsychotic	Remission	Kynanthropy	24
(Rojo Moreno et al., 1990) (26)	Psychotic depression	Spain	24	M	Antipsychotic, Antidepressants	Remission	Lycanthropy	25
(Bénézech et al., 1989) (27)	Hysteria and/or mythomania in antisocial personality disorder Alcohol abuse	France	28	M	–	–	Lycanthropy	26
(Dening and West, 1989) (28)	Psychotic depression (doubt on acute organic state)	UK	43	F	Antipsychotic ( <i>Chlorpromazine</i> )	Remission	Lycanthropy and multiple zoanthropy (cat, dog)	27
(Keck et al., 1988) (29)	Mania, bipolar disorder, cannabis intoxication	USA	18	M	Antipsychotic Lithium carbonate	Remission	Lycanthropy	28
	Schizophrenia	USA	19	M	Antipsychotic	Partial remission	Lycanthropy	29
	Mania, bipolar disorder, obsessive compulsive disorder	USA	17	M	Antipsychotic	Remission	Kynanthropy	30
(Knoll, 1986) (30)	Mania, bipolar disorder	USA	29	M	Antipsychotic	Remission	Kynanthropy	31
	Schizophrenia	–	–	M	–	–	Kynanthropy	32
(Coll et al., 1985) (4)	Psychotic depression	Ireland	66	F	ECT (after inefficient phenothiazines plus antidepressants). Maintenance dose of Antidepressants	Remission	Kynanthropy	33
(Jackson, 1978) (31)	Schizophrenia	USA	56	F	Antipsychotic	Partial remission	Kynanthropy	34
(Rosenstock and Vincent, 1977) (32)	Schizophrenia	USA	49	F	Antipsychotic	Partial remission	Lycanthropy	35
(Surawicz and Banta, 1975) (33)	Schizophrenia (+ hallucinogenic drugs)	USA <i>Ethnicity: White</i>	20	M	Antipsychotic ( <i>Trifluoperazine</i> )	Partial remission	Lycanthropy	36
	Chronic brain syndrome with psychotic symptoms	USA	37	M	Antipsychotic ( <i>Thioridazine hydrochloride</i> )	Remission (of the psychotic symptoms)	Lycanthropy	37
(Lange, 1970) (34)	Alcohol intoxication	Germany	–	–	–	–	Kynanthropy	38
(Fodor, 1945) (35)	–	USA	–	F	–	–	Lycanthropy	39
(Schneider, 1920) (36)	Hysteria	–	–	F	Morphine	Partial remission	Kynanthropy	40
(Deny and Camus, 1905) (37)	Cenaesthesiopathy	France	–	–	–	–	Kynanthropy/multiple zoanthropy	41
(Rúa Figueroa, 1859) (38)	Psychopathy	Spanish	–	M	–	Death (execution)	Lycanthropy	42
(Morel, 1852) (39)	Lycanthropy	France	–	M	–	Death (starvation)	Lycanthropy	43

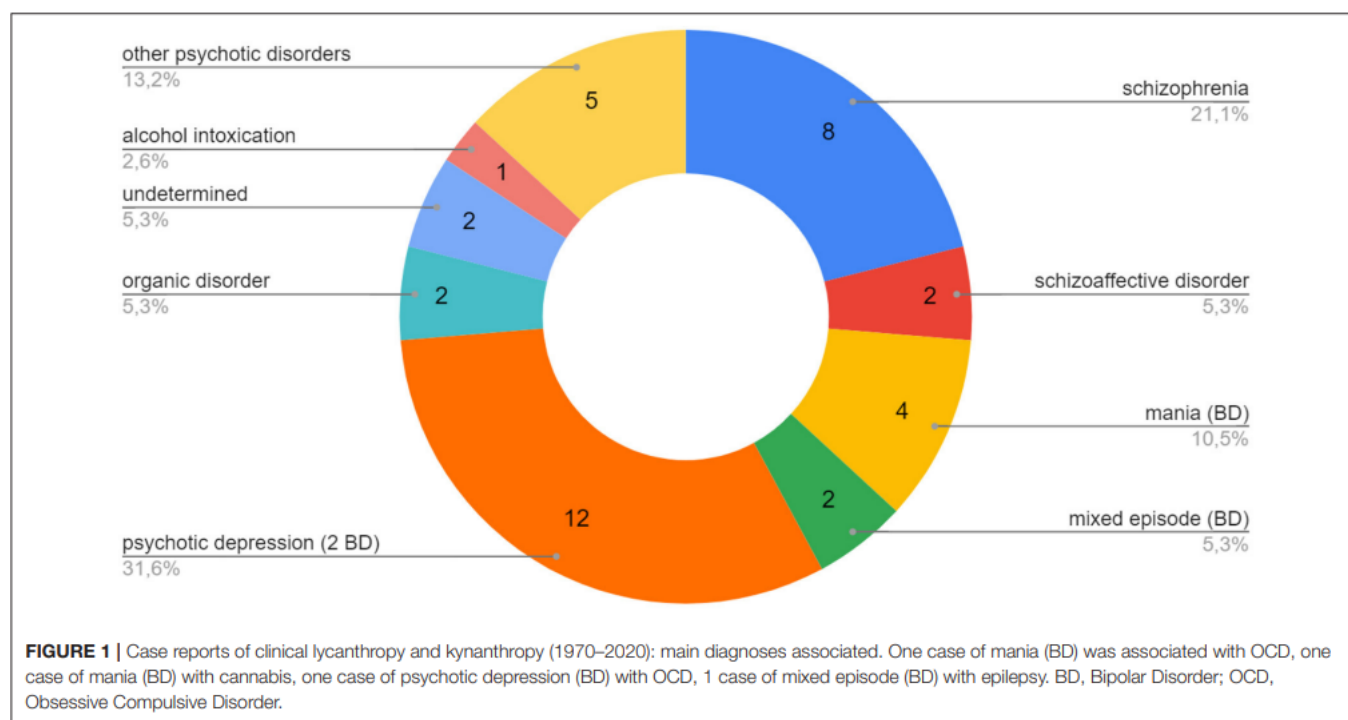
The cases reported were treated with antipsychotic medications, plus an antidepressant in case of depression, or a mood regulator in case of bipolar disorder.

## Pathophysiological Hypotheses

### The Concept of Cenesthopathy

“Cenesthopathy” is a concept that designs pathological bodily perceptions (41). Some case series suggested that cenesthopathies are found in schizophrenia and psychotic depression but

may also be partially distinct from schizophrenia (42, 43). Psychopathological studies report that cenesthopathies are related to the patients’ “self-existence” feelings, and to strangeness of thoughts (44). Cenesthopathy is thought to be more common in adolescent males or middle-aged to elderly women (43). Some cases of clinical lycanthropy may be considered as a cenesthopathy, related to somatosensory aberrations that affect the body scheme (16). According to a study among 30 patients diagnosed with schizophrenia (73% males, mean age



31.5), cenesthopathy is associated with cognitive abnormalities: disturbances of thought initiative and mental intentionality, of receptive speech, and subjective retardation or pressure of thoughts (45). In the case of clinical lycanthropy, the theme of the delusion would be secondary to somatic hallucinations, body scheme illusions and/or perceived changes in physical appearance. Blom reported the case of a 26-year-old man who complained of: increased hair growth, “hardening” of the jaws and facial musculature, changes within the oral cavity and wounds in the corners of the mouth, attributed to the presence of fangs (patient n° 7, **Table 1**). According to the conception of clinical lycanthropy as a cenesthopathy, the sensory hallucinations would happen first, and the patient would secondarily develop a delusional interpretation of it.

### The Concept of Delusional Misidentification of the Self

Delusional Misidentification Syndromes (DMS) refer to a fixed, false belief about the identity of a person, place, or object (46). Delusional Misidentification Syndromes include Capgras syndrome, Fregoli syndrome, reduplicative paramnesia, or intermetamorphosis (15). In the Capgras syndrome, the delusion consists of the false idea that someone (often a close relation) is replaced by an imposter (47). Fregoli syndrome is the mistaken belief that some person currently present in the deluded person’s environment (typically a stranger) is a familiar person in disguise. The stranger is psychologically identical to the familiar, as if the familiar individual were masquerading as a stranger (48). In the reduplicative paramnesia syndrome, the patient believes that a familiar place, person, object, or body part has been duplicated

(49). In the intermetamorphosis syndrome, the patient believes that an individual has been transformed both physically and psychologically (50).

In clinical lycanthropy, the patient believes that he is transformed into a wolf, which can interestingly be conceptualized as a specific type of DMS of the “Self” (15, 51). Some patients believe that they are transforming into wolves while looking at themselves in the mirror (patient n° 1 and 3, **Table 1**). The 12-year-old pubescent adolescent that we recently described (5) exhibited visual delusions when looking at himself in the mirror, seeing his eyes changing colors and his teeth lengthening. His symptoms were different from another rare type of DMS, the mirror delusional misidentification syndrome, also called the mirror sign, in which the patient treats the mirror image as a separate individual (46). Mirror delusional misidentification and Capgras syndrome could both be related to facial recognition impairments (46).

There is a relationship between DMS and right hemisphere dysfunction (52, 53). A review on lesion-related DMS reported localization to the right hemisphere and frontal lobe, although wider networks may be involved (54). Right hemisphere anomalies would play an important role in neuropathologies of the self (55). To our knowledge, there are no neuroscientific studies on zoanthropic syndromes.

### Clinical Overlap With Other Delusional Misidentification Syndromes

Our review shows that there is an important overlap between clinical lycanthropy and other DMS (for example patients n° 15, 16, 19, 27, 34, **Table 1**). A 20-year-old patient with



psychotic depression experienced delusions in which other people transformed into wolves and leopards (n° 15, **Table 1**). A 32-year-old man with bipolar disorder experienced kynanthropy, thought his wife and daughters had transformed into dogs and experienced Cotard syndrome [i.e., delusion of “negation,” within which the patient can deny being alive, or having guts (56)] (n° 16, **Table 1**). A 43-year-old woman with psychotic depression thought that she transformed into a wolf and other animals (cat, dog), and she said her husband appeared as the devil (n° 27, **Table 1**). A 56-year-old woman with schizophrenia experienced clinical kynanthropy, Capgras delusions, and erotomanic delusions (n° 34, **Table 1**). The frontier between self-delusion and intermetamorphosis is porous, given that some patients with lycanthropy also have delusions of other person’s transformations.

The clinical overlap between various DMS may suggest the hypothesis of shared mechanisms between clinical lycanthropy and other DMS. Patient n° 34 (**Table 1**) rapidly remitted the kynanthropic delusion thanks to antipsychotic medications but she then suffered from delusional misidentification of strangers and friends. Two days after a second episode of kynanthropy, she experienced again a Capgras syndrome, she thought her psychiatrist was an impostor. Arisoy et al. reported the case of a multiple DMS (reduplicative paramnesia, intermetamorphosis, reverse-intermetamorphosis, misidentification of reflection, and Capgras syndrome) in a 17-year-old adolescent (57). Overall, these clinical overlaps of DMS may suggest a pathophysiological overlap and may support the inclusion of clinical lycanthropy within the DMS syndromes.

### Visual Processing Anomalies and Belief-Evaluation System

A “two-factor theory” has been suggested as a possible explanatory hypothesis for lycanthropy (12, 15). Some patients with clinical lycanthropy experience visual delusions (for example, patients n° 1, 2, 3, 36, **Table 1**), suggesting an anomaly in visual sensory processing or integration. Theoretically, the inappropriate perceptions would need a second error of the patient for the delusion to be effective: the inappropriate perception would then be treated erroneously. The belief-evaluation system would ineffectively treat the inappropriate perception, preventing the false thought to be rejected.

These delusions would be the result of two factors: a mismatch processing sensory information of the self and impairment in the belief-evaluation system.

### Sleep and Clinical Lycanthropy

#### *Chronobiology and Circadian Rhythms*

Clinical lycanthropy is sometimes associated with the patients claiming to transform into wolves depending on the lunar cycles (for example patients n° 1, 36, **Table 1**).

Erren and Lewis hypothesize that some rare werewolf cases may be due to manic and aggressive behaviors that would have been triggered by moon-associated signals (58). The 4 hypotheses of Erren and Lewis concerning lunar effects are the following ones: “(i) some as of yet non-measurable signal or undefined geoelectric/geomagnetic physiological receptor,

(ii) Moonlight affecting sleep and/or circadian rhythm, (iii) imprinting susceptibility at birth, (iv) lunar periodic growth of, and subsequent consumption of or exposure to, psychotropic agents” (58).

Wehr showed that an association of some rapid-cycling bipolar disorders with lunar cycles is plausible, studying the lunar cycles and the circadian rhythms of 17 patients with rapid cycling bipolar disorders (59). Hypothetically, it may also be related to the lunar-periodic association of the body temperature rhythms. A retrospective study on 13,067 patients in China reported that psychiatric admissions for schizophrenia show lunar periodicities, with peaks in the first quarter, followed by the full moon and lowest at the new moon. The patients with paranoid schizophrenia were more likely to be admitted at the full moon, using unspecified schizophrenia as a reference (60). On the contrary, a study on 17,966 patients with any psychiatric disorders in Switzerland found no connection between lunar cycles and psychiatric admissions (61). The lunar cycle may have a relation with sleep-wake patterns (62). Evidence of moon-associated sleep symptoms is low, as well as a hypothetical lunar cycle-associated delusional syndrome.

### Obstructive Sleep Apnea

Patients n° 2 and 3 (**Table 1**) are two cases of clinical lycanthropy (one with schizoaffective disorder and mild mental retardation, the other with organic dissociative disorder) who also suffered from Obstructive Sleep Apnea (OSA). Marques (12) hypothesizes that awakenings or hypoxemic periods induced by obstructive sleep apnea may contribute to lycanthropic delusions. The two patients’ delusions disappeared after treatment adaptations, psychoeducation, plus weight loss for the one, and hypnotic treatment adjustment for the second. In the literature, there are other cases of psychotic spectrum disorders comorbid of OSA, such as psychotic depression (63), schizophrenia (64), or other psychotic symptoms (65, 66), which improved or remitted after continuous airway pressure treatment.

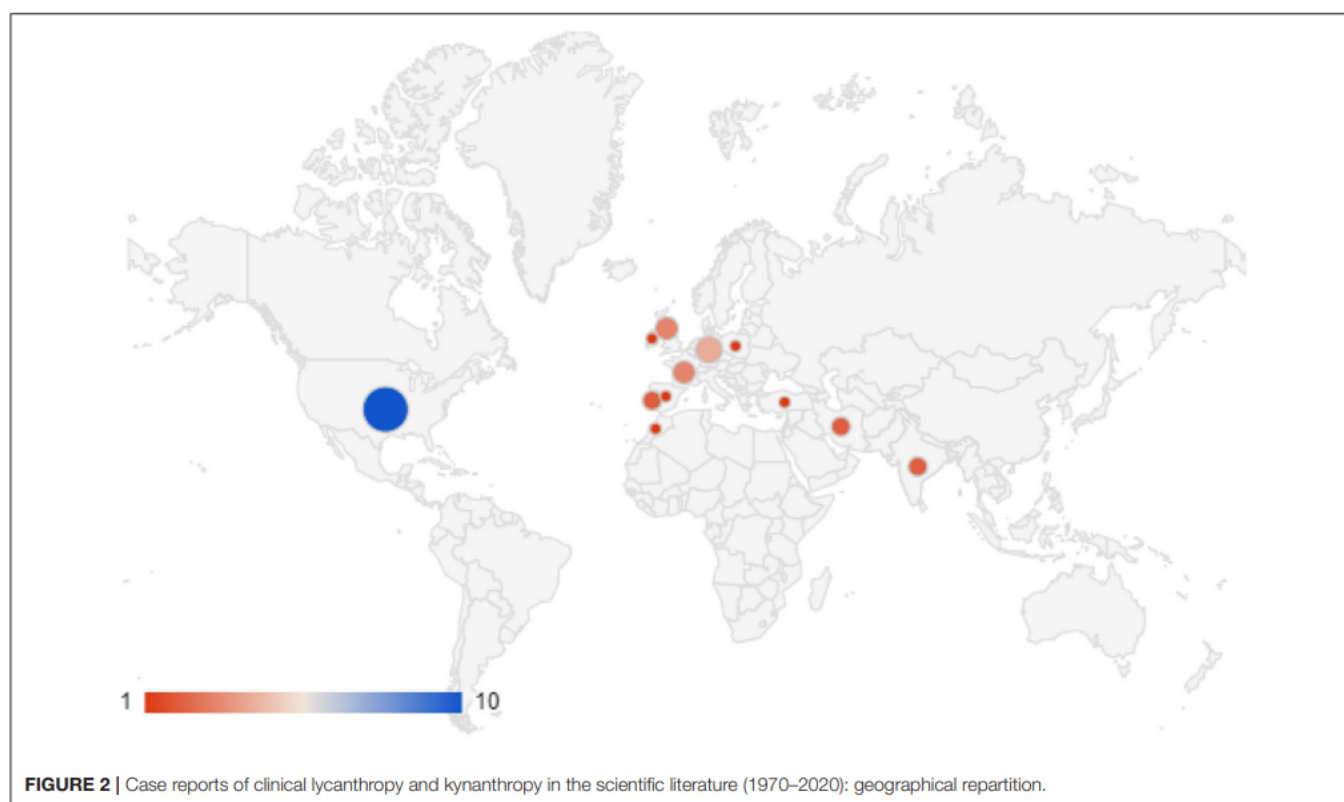
### Cultural Aspects

#### *Transcultural Aspects*

The cases of clinical lycanthropy and kynanthropy were reported in the following countries (**Figure 2**):

- the USA,
- Western Europe (Portugal, Spain, Ireland, UK, Germany, The Netherlands), and the patients originated from these countries, or Africa,
- Turkey,
- Iran,
- India.

Some authors suggest that clinical lycanthropy is a culture-bound syndrome (67). From an anthropological perspective, animal transformation does not have the same meaning depending on the culture. In Western cultures, animals and humans are separated ontologies, whereas the borders between animals’ and humans’ interiority and physicality exist differently in other cultures (68). Also, concerning psychotic symptoms,



**FIGURE 2 |** Case reports of clinical lycanthropy and kynanthropy in the scientific literature (1970–2020): geographical repartition.

cultures have an impact on the experience of hallucinations, and hallucinations can be culturally meaningful (1).

The symbolism of the wolf is different among cultures. In Western Europe, the wolf is associated with negative aspects, perceived as dangerous or even evil (6). On another hand, the Nordic Europe traditions associate the wolf with positive characteristics (7). Scandinavian warriors, the *ulfhednir*, ate wolves and dressed in wolf fur before fights (6). In the Middle East, Younis and Moselhy explain that the wolf has a dual paradox meaning of impurity and loyalty. In the eight cases of lycanthropy and kynanthropy they reported, most of their patients endured psychotic depression, with delusional ideas of guilt and dirtiness, thus identifying themselves with the negative meaning of the dog (17). In India, a case of kynanthropy was culturally attributed to black magic in Bangalore province (patient n° 22, **Table 1**), and the traditional treatment was to vomit to remove the effects of the “evil eye.” We also spotted several cases in which evil was evoked within the patients’ discourses, in Western Europe (patients n° 4, 17, 27, **Table 1**). In Zimbabwe, we found a report of voluntary transformation in a jackal in a “lycanthropic ceremonial” in 1933 (35). In Arabic medicine, Avicenna describes the mania lupina and mania canina (Avicenna, Canon, lib.3, fen1, tr.4, ch.15).

Keck et al. reported that lycanthropy was also reported in nineteenth-century Japan (69). In Japanese culture, the fox has a more important place and cases of belief in fox transformation or possession have been reported (70). The belief of possession

by foxes (*kitsunetsuki*), and the belief of possession by dog-like mythological beings (*inugami*) had been existing in the Japanese culture, but when the Japanese adopted Western medicine, they believed less in animal possession and rather considered it as a mental illness (71, 72). The delusion of possession by a fox was described as the most common animal possession in some populations of patients in Japan (73). These examples show that the content of psychiatric symptoms, such as the type of animal-related delusion, is influenced by the cultural background.

### Culture and the Narration of the Delusion

The cultural factors implicated in the delusional syndromes are still insufficiently understood. Yet cultural factors do influence the content of delusion, as illustrated by these case reports, and consequently, these delusions are part of the patients’ narrative, which clinical psychiatry deals with. Lack of cultural understanding may prevent clinicians from adequately responding to patient distress (74). The relationship between delusional types or themes and the pathophysiological mechanisms are still unelucidated, despite some studies pointing out that specific neuropathological mechanisms may correspond to precise delusional expressions (75). Environmental stress factors of clinical lycanthropy can be a dog bite, leading to delusional interpretation (23), which suggests a relationship between the nature of traumatic events, and the clinical expression and content of the neuropsychiatric disorder.



## Lycanthropy, Internet Culture, and Internet-Mediated Delusions

Digital culture allowed patient n°1 (**Table 1**) to immerse into this mythical imagination *via* series and online searches. Day and night, he watched series and websites related to wolves and werewolves. Two other patients experienced clinical lycanthropy delusions as related to series, or online research, that they used to find an explanation for their hallucinations (patients n°6 and 7, **Table 1**). Another patient feared watching movies that could interfere with his lycanthropic delusions (patient n°18, **Table 1**). Earlier, in 1975, Surawicz and Banta reported the case of a 20-year-old patient with clinical lycanthropy after he saw the movie “The Exorcist” (patient n°36, **Table 1**). Research on the link between delusions and the internet remains sporadic (76). In today’s adolescent culture, werewolves are still represented in literature, such as the character Remus Lupin in JK Rowlings’ *Harry Potter* (8), in *Twilight* (77), or in the series, such as *Teen Wolf* (9). Digital technology, the internet, social networks, series, video games, and virtual reality games are now a main part of the culture. These cases suggest that studying the consequences of digital technologies on adolescents’ mental health and assessing their use in daily clinical practice is relevant.

## DISCUSSION

This review identified:

1. Forty-three cases of clinical lycanthropy and lycanthropy, mainly associated with psychotic spectrum disorders (schizophrenia, bipolar disorder, psychotic depression, and other psychotic disorders). These delusional syndromes clinically overlapped with other delusional misidentification syndromes.
2. Several neurobiological hypotheses on clinical lycanthropy that may interact: cenesthopathy, delusional misidentification of the self, circadian rhythms dysregulation, abnormal sensory perception and integration, impairments in the belief-evaluation system, right hemisphere anomalies.
3. Cultural aspects: if zoanthropic syndromes are reported in various continents, clinical lycanthropy has mainly been reported in Western countries, and may be a culture-bound syndrome. Wolf transformation delusion may be the result of a neurobiological psychiatric disorder happening in the specific context of Western cultures, myths and stories on wolves and werewolves, and today’s exposure to these narratives on cultural media such as the internet, and the series.

The strengths of evidence are low for these results.

## Lycanthropy in History

The oldest known writings mentioning lycanthropy are found in the Greek myth of Lycaon, the King of Arcadia (78). The most famous case of zoanthropy is King Nebuchadnezzar II (605–562 BC) who endured delusional beef transformation delusions. The animal transformation of Nebuchadnezzar is mentioned in the Bible (Daniel 4; 29–31). In ancient Egypt, Anubis, the god of death and the inventor of embalming, is represented with the head of a jackal or, more precisely, an African golden wolf (79). Interestingly, in ancient Egypt, Anubis and the lunar circle are represented together, showing a very ancient association of

men-wolves with the moon (80). In Byzantine times, physicians explained lycanthropy as a type of melancholic depression or mania (81). In medieval and Renaissance times, lycanthropy was often attributed to satanic forces. Kynanthropy was described in Byzantine late Antiquity, for example in the city of Amida (eastern Turkey) (82). Aetius of Amida devotes an entire chapter to lycanthropy and kynanthropy, which underlines a clinical significance in these times (7). In medieval and renaissance times, lycanthropy was often attributed to satanic forces (11). Beliefs in werewolves and other zoanthropic phenomena are still very present in some cultures, for example in Haiti, where the werewolf refers to women transforming at night and sucking the blood of young children (83). Transformation into an animal can happen in the cultural context of possession, in rituals and traditional therapies (84, 85). The animal is then both an incarnation and a totem.

## Other Zoanthropic Syndromes

Lycanthropy and kynanthropy are specific forms of zoanthropy. Zoanthropy is observed on several continents, and animals are as variable as lions, tigers, hyenas, sharks, or crocodiles (4). During the review on lycanthropy, we also found other cases of zoanthropy: snake transformation in Lebanon (67), pig in India (86), wild boar in Germany (87), cow in the Middle East (17), frog and bee in Germany (88), gerbil, bird, cat, rabbit, tiger in the USA (29). The environmental and cultural context is a factor that influences the content of the delusion. For example, Garlipp et al. reported the case of a 43-year-old man with a history of bipolar disorder, who believed to be transformed into a wild boar, during an alcohol intoxication (87). This delusion happened after real contact with those animals.

Keck et al. reported two cases of ailuranthropy, or cat transformation delusion, one in a 37-year-old woman with a bipolar disorder that remitted after treatment, the other in a 24-year-old man with atypical and resistant psychosis, who believed since 13 years, without interruption, that he was a cat, lived with cats and had sexual activity with cats. Reports of ailuranthropy are very rare compared to lycanthropy, despite the important place of this animal in human cultures.

## Psychodynamic Hypotheses

Some cases of lycanthropy and kynanthropy we reported were associated with feelings of guilt, dirtiness, or evilness, and the idea of being transformed into a symbolically negative animal may be related to these depressive and delusional symptoms. Also, during adolescence, the bodily and identity transformation during this period of life may interfere with the delusional experience of lycanthropic transformation (n° 1, 22, 28, 29, 30, **Table 1**).

## Non-psychiatric Cases of Lycanthropy

“Werewolf syndromes” are also found in medical publications referring to non-psychiatric diseases: rabies, lepromatous leprosy, congenital hypertrichosis, gingival fibromatosis with hypertrichosis syndrome, congenital erythropoietic porphyria (40, 89–93). In these cases, the word “werewolf” is used due to the appearance of the patient. For example, gingival fibromatosis



with hypertrichosis syndrome is a heterogeneous group of diseases in which the patients suffer from excessive universal hair growth and gingival overgrowth, which is seen as a wolf-like body transformation. Congenital erythropoietic porphyria (Gunther's disease) is characterized by skin photosensitivity and fragility leading to severe scarring of the face and hands, hirsutism, red discoloration of teeth, finger-nails, and urine, and stunted growth (92). These syndromes are somatic conditions, but they have a psychological and social impact (90). The treatment is the medical treatment of the disease itself.

## Cultural and Cognitive Correlates of Delusion

The existence of cultural correlates of delusion experience and expression and their influence on clinical assessment in biological psychiatry are admitted but poorly known (1, 2). This aspect is rather studied in other approaches, especially transcultural psychiatry. The cultural context influences the delusional content of schizophrenia (94, 95). A study compared the content of patients' delusions and hallucinations in three groups (Pakistanis of 1st and 2nd generation living in Britain, Pakistanis living in Pakistan, and British White living in Britain) and surprisingly observed more differences between Pakistanis living in Britain vs. in Pakistan than between Pakistanis vs. White living in Britain (96). Also, the statement of the DSM that the diagnosis of a delusion should exclude shared cultural beliefs is questionable (97). Clinical lycanthropy is an example of a psychiatric syndrome for which the psychiatrist needs both a neurobiological and cultural perspective to understand the disorder. Building a model that would integrate cognitive aspects and cultural factors is a challenge. Various cognitive models aim at explaining delusions (98), delusions are considered to be "pathological beliefs" explaining abnormal perceptions. Some factors would explain the content of delusions while others would explain their presence (99). Some cognitive models retain two main factors: perceptual abnormalities, and mistakes in the beliefs related to these perceptual experiences, through cognitive biases (98). Cognitive biases play a role in the development and the maintenance of delusions. Some factors may influence the cognitive process of delusions (for example, trauma-related memory, or state of negative affect, can influence information processing) (98). Persecutory delusions are much studied (100), while scientific knowledge about DMS remains scarce. The content of delusions is often personally, environmentally, and culturally relevant (96, 101). For example, the type of delusion may be influenced by the conceptions of the self and the type of family relationship across countries (102, 103). Our review supports that cultural factors, including collective beliefs and fictions, may influence the content of delusions, possibly by contributing to the cognitive biases described in the cognitive models of delusions.

## Outlines for an Integrative Model

Several levels of understanding of clinical lycanthropy can be proposed. The difficulty lies in the theoretical splitting of different

yet complementaristic hypotheses and aspects, that include neurobiological, and anthropological hypotheses (Figure 3).

## The Psychiatric Management of Clinical Lycanthropy

At the clinical level, the psychiatric management of clinical lycanthropy should include research of other delusional misidentification syndromes, given the important clinical overlap we reported. Also, some neuropsychological tests are pertinent besides the acute episodes.

The delusional theme of animal transformation may be both embedded within the patient's psychiatric disorder, associated with mood and psychotic symptoms, and related to the cultural meaning of lycanthropy and the environmental exposure of the patient to these narratives. The use of the internet and numeric tools should be assessed. Furthermore, the cultural and linguistic features of the patient should be assessed, to adapt the access to care and psychotherapy to the patients' cultural background (104–107).

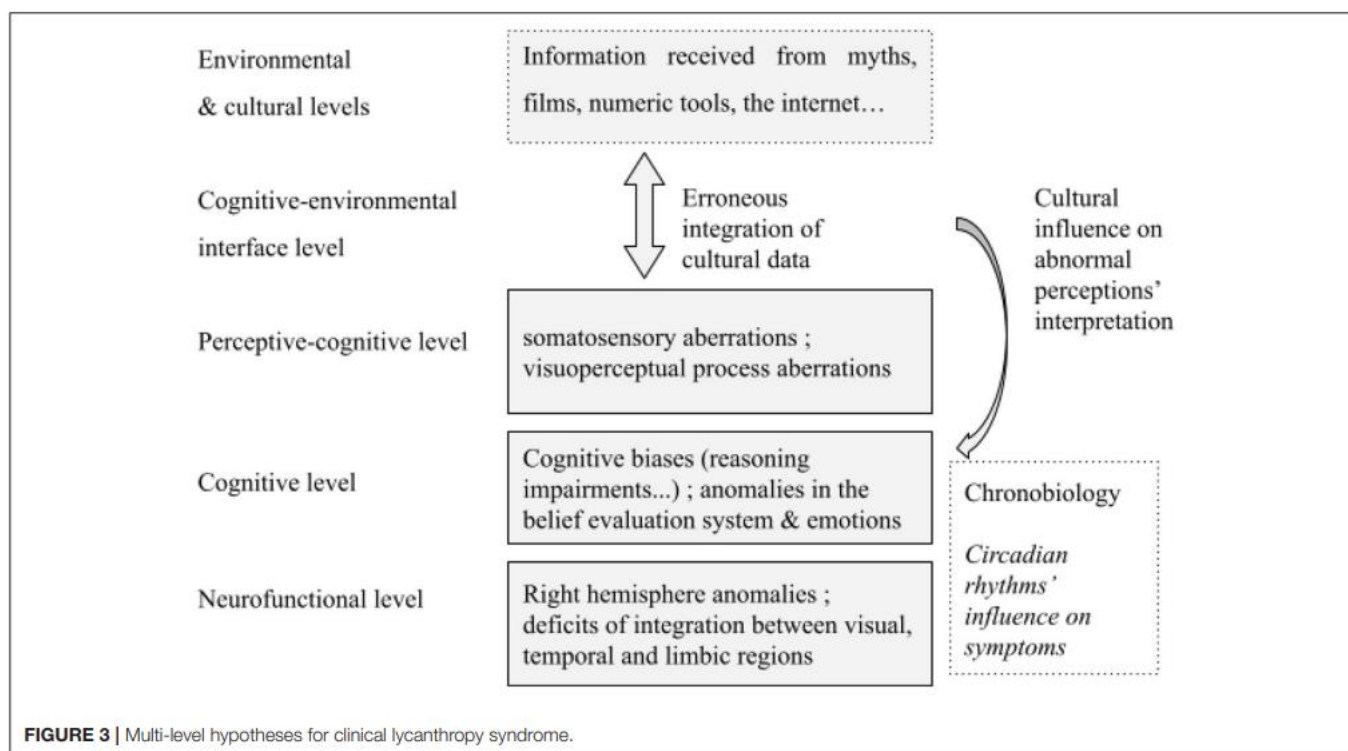
Given the occurrence of lycanthropy in the context of neurological conditions and intoxications, careful consideration should be given to neurological exams, including brain imaging, EEG, and toxicological exams (108). Screening sleep disorders is also pertinent.

Antipsychotic medications may be an efficient psychopharmacological treatment for this rare transnosographic delusional syndrome. Mood disorders are highly associated with clinical lycanthropy. In these cases, patients remitted of clinical lycanthropy thanks to antidepressants plus antipsychotics in case of psychotic depression, and mood regulators plus antipsychotics in case of bipolar disorders (Table 1).

Psychotherapy is indicated in mood and psychotic disorders, which are associated with clinical lycanthropy. To our knowledge, there is no scientific evidence regarding psychotherapy in clinical lycanthropy or zoanthropic delusions. Cognitive behavioral therapy is being developed for positive symptoms, however it is mainly studied in persecutory delusion (98, 107). Cognitive behavioral therapy in psychosis may target cognitive biases, for example, jumping to conclusions, and help patients develop alternative explanations to their abnormal experiences or negative affects.

## LIMITATIONS

This systematic review is based on case reports, consequently, the level of evidence is low. There is a risk of bias due to the scarcity of case reports in the literature, and the absence of statistical data, as well as the unbalanced number of publications depending on the country. Another limit is that we reviewed the case reports of lycanthropy in any country with no language restriction, but we probably did not access articles in other languages not referenced in Pubmed/Medline or Google Scholar. As there are no neuroscientific studies on zoanthropic syndromes, the reflection remains based on clinical practice, and analogies with other psychiatric syndromes, especially the DMS syndromes. Finally,



we limited this review to lycanthropy and kynanthropy, and studying other animal transformation delusions would be complementary.

## CONCLUSIONS

Clinical lycanthropy is a rare neuropsychiatric syndrome for which there is little scientific data. It requires complementaristic neuroscientific and cultural approaches.

From a nosological point of view, clinical lycanthropy is a transnosographic syndrome found across diagnostic borders, in schizophrenia, mood disorders, and other psychotic disorders. Thus, clinical lycanthropy is found in the large spectrum of psychotic disorders. Antipsychotic medications may be an efficient psychopharmacological treatment for this rare transnosographic delusional syndrome. In case of depression or mania, the treatment includes antidepressant or mood regulators, respectively.

The neuroscientific hypotheses include the conception of clinical lycanthropy as a cenesthopathy, the conception of clinical lycanthropy as a delusional misidentification of the self-syndrome, impairments of sensory process and integration, impairments of the belief evaluation system, and anomalies in the right hemisphere. This acquired neuroscientific knowledge allows revisiting the mysterious clinical descriptions of early psychiatry. Interestingly, there is a clinical overlap between clinical lycanthropy and other delusional misidentification syndromes, which suggests shared pathophysiology. Today, psychiatrists should exhibit the same precision in describing

the neurological anomalies through exams (neuropsychological exams, neuroanatomic, and neurofunctional imagery) as did the earlier psychiatrists in their meticulous clinical observations. Clinical lycanthropy can be considered a culture-bound syndrome. A cultural approach is needed for the clinical assessment of these patients, as well as narrative and patient-centered management. Transtheoretical psychiatric reflections are relevant for some disorders. Neurobiological and cultural perspectives are complementaristic, and future studies should include integrative frameworks.

## DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/**Supplementary Materials**, further inquiries can be directed to the corresponding author.

## AUTHOR CONTRIBUTIONS

SG performed the systematic review and wrote the first draft, with LB and SM. JM improved the draft and supervised the study. MM coordinated the whole study and improved the draft. All authors contributed to the article and approved the submitted version.

## SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fpsy.2021.718101/full#supplementary-material>



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## **Article 3. The Neurobiological Hypotheses on Clinical Lycanthropy**

**The Neurobiological Hypotheses on Clinical Lycanthropy**

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## Letter to the Editor

## The neurobiological hypotheses on Clinical Lycanthropy

Dear Editor,

We read with interest the case report of Clinical Lycanthropy published in *Psychiatry Research* by Groh et al. (Groh et al., 2020), who described the case of a 39-year-old man with a diagnosis of schizophrenia. This patient experienced clinical lycanthropy, i.e. the delusion of turning into a wolf. Clinical lycanthropy is a zoanthropic syndrome, in which patients have the delusional beliefs of turning into animals. Groh et al. have interestingly explored psychopathological hypotheses concerning this type of delusion, including the existence of unresolved conflicts during childhood coped with magical thinking.

From a neurobiological point of view, we think that it is relevant to cite supplementary pathophysiological hypotheses that have been proposed, some of which in the very last years. Here are the following hypotheses we found in the literature:

Most of the cases of clinical lycanthropy reported in the scientific literature concern patients that were diagnosed with schizophrenia disorders, mood disorders (psychotic depression and mania), or other psychotic disorders (Blom, 2014). Also, some cases reported were related to neurological conditions (Surawicz and Banta, 1975; Marques, 2019; Moselhy, 1999), including epilepsy.

Blom suggests that some cases of clinical lycanthropy may be considered as cenesthopathies, related to somatosensory aberrations that affect the body scheme (Blom et al., 2010). In this case, clinical lycanthropy would be secondary to somatic hallucinations, body schema illusions and/or perceived changes in physical appearance. Blom reported the case of a 26-year-old man who complained of: increased hair growth, "hardening" of the jaws and facial musculature, changes within the oral cavity and wounds in the corners of the mouth, attributed to the presence of fangs.

Shrestha considers clinical lycanthropy as a Delusional Misidentification Syndrome. Delusional Misidentification Syndromes are delusional syndromes in which patients misidentify a person, place or object, including Capgras, Fregoli syndrome, reduplicative paramnesia or intermetamorphosis (Shrestha, 2014). These kinds of delusions may be the result of two factors: a mismatch processing sensory information and an impairment in the belief-evaluation system. A review on lesion-related Delusional Misidentification Syndromes reported localization to the right hemisphere and frontal lobe, but wider networks may be involved (Darby and Prasad, 2016).

Erren and Lewis hypothesize that some werewolf cases may be due to manic and aggressive behaviors that would have been triggered by moon-associated signals, in extremely rare cases (Erren and Lewis, 2019). Wehr showed that an association of some rapid-cycling

bipolar disorders with lunar cycles is plausible (Wehr, 2018). Hypothetically, it may also be related to lunar-periodic variations of the body temperature rhythms.

Marques reported two cases of delusions of wolf transformation in two patients with neuropsychiatric disorders. These two patients suffered from obstructive sleep apnea. Marques hypothesized that awakenings or hypoxemic periods induced by obstructive sleep apnea may contribute to lycanthropic delusions (Marques, 2019).

How would a patient adhere to a specific narrative as a delusional explanation of his/her psychotic experience? In the case of clinical lycanthropy, the cultural context may be a factor that influences the delusional outcome. In two recent cases, the delusion had a relation -although unclear- with books, movies, and the use of the internet (Blom et al., 2010; Shrestha, 2014).

Despite clinical lycanthropy has raised questions among physicians since Ancient Times, it is a rare syndrome that has never benefited from specific neuroscientific research. Thus, the explanations we exposed in this letter remain hypotheses with scarce evidence, but they may be avenues of research.

## Declaration of Competing Interest

The authors report no biomedical financial interests or potential conflicts of interest.

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## 4. Construire des instruments appropriés

Des outils appropriés et validés (par exemple, des questionnaires et des échelles), conçus pour la recherche ou la pratique clinique, sont des clés de voûte pour articuler les approches biologiques et sociales. Les échelles d'évaluation standardisées peuvent refléter une représentation nomothétique des variables mesurées, tandis que la question de la validité transculturelle inclut une perspective idiographique. Une approche sociale est nécessaire dans la création d'outils valides d'un point de vue transculturel car elle permet de répondre à certains défis tels que l'adéquation de la traduction et la correspondance conceptuelle entre les cultures.

Les outils disponibles contribuent à façonner les plans de recherche et les représentations des cliniciens, notamment en rendant saisissables - ou au contraire invisibles - certaines formes culturelles d'expériences de souffrance psychique. En psychiatrie de l'enfant et de l'adolescent, il y a un manque d'instruments culturellement appropriés et valides d'un point de vue transculturel (Guessoum, et al., 2021; Kaiser et al., 2019).

Certaines échelles déforment ou manquent certaines dimensions culturellement spécifiques de la souffrance psychique, induisant une forme d'erreur de mesure de l'expérience des patients, en assimilant à tort l'expérience occidentale (car de nombreux outils sont construits dans des populations occidentales) de la souffrance psychique à celle d'autres cultures (induisant une sorte d' "*experience measure fallacy*", en parallèle à la description de "*category fallacy*" de Kleinman) (Kleinman, 1977; Phan et al., 2004). Ces instruments sont limités par les visions culturelles dans lesquelles ils s'inscrivent. Par exemple, une échelle occidentale en psychiatrie adulte passerait à côté d'une forme de dysphorie culturellement significative que l'*Afghan symptom checklist* permet de repérer chez un patient de culture afghane : le *jigar khun*, littéralement "sang de foie", est une dysphorie intense et persistante qui reflète le chagrin consécutif à une perte interpersonnelle mais qui peut aussi être une réaction à toute expérience profondément décevante ou douloureuse (Rasmussen et al., 2014). Les échelles doivent être validées dans d'autres contextes culturels, afin de diminuer les biais culturels (voir par exemple la validation transculturelle de l'échelle des syndromes positifs et négatifs PNSS (Khan et al., 2013).

À titre d'exemple en psychiatrie de l'enfant et de l'adolescent, pour l'autisme, plusieurs outils ont montré des propriétés psychométriques moins élevées au sein de populations de minorités culturelles ou de pays non occidentaux, attestant un manque global d'outils de dépistage et de diagnostic validés et culturellement appropriés (de Leeuw et al., 2020). Par exemple, l'*Autism Diagnostic Interview-Revised* (ADI-R) a montré dans une population hispanophone des États-Unis une sensibilité et spécificité inférieures à celles de la validation originale, qui ne comprenait que des personnes de langue maternelle

anglaise (Vanegas et al., 2016). La version hispanophone de l'ADI-R peut être moins valide lorsque les compétences linguistiques en espagnol du parent et de l'enfant diffèrent ; si le parent parle principalement l'espagnol et que l'enfant parle principalement l'anglais avec ses pairs et à l'école, les questions de communication verbale de l'ADI-R peuvent être moins valides.

L'entretien de formulation culturelle du DSM-5 comprend des questions idiographiques intéressantes sur la définition culturelle du problème, les perceptions de la cause, du contexte et du soutien, les facteurs culturels affectant les stratégies d'adaptation et de recherche d'aide, les représentations de la détresse psychique, le contexte et les préférences de soins, ainsi que des modules complémentaires ; certains auteurs suggèrent le développement d'un module complémentaire spécifiquement conçu pour les jeunes enfants (*American Psychiatric Association*, 2013; La Roche & Bloom, 2020). Davantage d'outils sont nécessaires pour évaluer d'autres aspects, par exemple les aspects interactionnels en fonction du contexte culturel, ou comment distinguer le normal du pathologique en tenant compte des facteurs culturels. Les cultures changeant avec le temps, et le besoin de réactualisation de ces outils peut être une difficulté supplémentaire.

Certains chercheurs ont conçu des échelles culturellement pertinentes : Phan et al. ont conçu une échelle psychiatrique dérivée des idiomes vietnamiens et de la compréhension culturelle de la souffrance psychique et émotionnelle identifiée dans la littérature vietnamienne et en utilisant des méthodes ethnographiques (en psychiatrie de l'adulte) (Phan et al., 2004). Une autre option consiste à proposer des adaptations transculturelles des échelles. Une solution appropriée consiste à développer des outils transculturels, utilisables dans plusieurs cultures, et qui cherchent à être transculturels dès leur conception, tels que : le PSYca, un outil conçu pour dépister les difficultés psychologiques chez les enfants âgés de 6 à 36 mois (Nackers et al., 2019); ou l'échelle ELAL (Evaluation Langagière des ALlophones et primo-arrivants) (Rezzoug et al., 2018), un instrument conçu pour évaluer les compétences en langue maternelle, dans n'importe quelle langue minoritaire grâce à la conception de la passation avec un interprète, et par conséquent mieux diagnostiquer les troubles du langage. Ces échelles, comme l'échelle ELAL, offrent une interface intéressante pour les études à méthodes mixtes (Guessoum et al., 2021).

Les instruments sont encore peu nombreux en psychiatrie de l'enfant et de l'adolescent, et leur utilisation et validité est compliquée par l'aspect dynamique du développement, et la nécessaire adaptation des instruments à l'âge et au développement des individus. Ces difficultés peuvent amener certains cliniciens à simplement éviter l'utilisation d'échelles et questionnaires.

Les instruments transculturels en psychiatrie de l'enfant et de l'adolescent sont rares. Kohrt et al. proposent des critères pour évaluer la validité transculturelle des instruments en psychiatrie de l'enfant

et de l'adolescent, tels que la mention des idiomes locaux employés, et la comparaison avec d'autres phénomènes mesurables (Kohrt et al., 2011). Il existe des inégalités en matière de santé mentale dans certains groupes minoritaires, tels que les enfants de migrants : la promotion de l'équité en matière de santé et d'accès aux soins est un impératif de santé publique (cf. la recherche concernant les effets des discriminations sur la santé mentale) (Moro & Radjack, 2022). Promouvoir des soins de santé adaptés est un enjeu éthique. Rendre ces inégalités mesurables, et fournir des outils adaptés aux patients quelles que soient leur culture est une nécessité.

L'**Article 4** de cette thèse, porte sur une étude qualitative utilisant l'ELAL. Cette recherche est chronologiquement la première de ce doctorat. Elle s'inscrit dans une recherche plus large, à l'intersection de la recherche quantitative et qualitative et des approches idiographiques et nomothétiques. Le programme hospitalier de recherche clinique dont elle fait partie visait à :

- construire une échelle pour évaluer les compétences langagières de base des enfants dans n'importe quelle langue minoritaire, et ainsi plaider contre les diagnostics erronés et les fausses croyances selon lesquelles les enfants migrants ont de faibles compétences langagières - alors qu'en réalité, ils sont multilingues et leurs compétences langagières suivent une dynamique différente par rapport aux enfants monolingues, pour lesquels la plupart des études et des échelles sont conçues,
- étudier les pratiques familiales et les représentations maternelles et les comparer aux profils de bilinguisme des enfants.

**Article 4. Transcultural and familial factors in bilingualism and language transmission:  
A qualitative study of maternal representations of French-Maghrebi Arabic bilingual  
children**

**Sélim Benjamin GUESSOUM, Dalila REZZOUG, Fatima TOUHAMI, Olivier TAIEB,  
Thierry BAUBET, Marie Rose MORO**

Transcultural Psychiatry, 2021 (**impact factor : 2.39**)

Cette étude est une partie qualitative d'un projet hospitalier de recherche clinique plus large. Une analyse quantitative de trois types de bilinguismes est en cours sur la population complète (enfants de langues française-arabe, française-soninké et française-tamoul).

Cet article contribue au travail de thèse en illustrant comment une échelle spécifique (l'ELAL) et un design d'étude spécifique (étude de méthodologie mixte, dont est présentée ici une partie qualitative) peuvent produire des connaissances sur les facteurs sociaux du développement du langage : il met en perspective les profils de bilinguisme, les facteurs environnementaux et les facteurs psychologiques parentaux et explore leurs possibles liens. Ce type d'étude est une illustration de recherche à

l'intersection entre approche biologique (développement cognitif) et approche sociale.

L'objectif fondamental de l'articulation des approches biologiques et sociales est celui de la santé des patients et de la qualité des soins, c'est pourquoi nous discutons dans le paragraphe suivant des interventions thérapeutiques et de la manière d'articuler approches biologiques et sociales auprès des patients. Dans la partie suivante, nous étudierons en particulier un dispositif de co-thérapie multimodale.

## **Article 4. Transcultural and familial factors in bilingualism and language transmission: A qualitative study of maternal representations of French-Maghrebi Arabic bilingual children**

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### **Résumé**

This qualitative exploratory study examined transcultural and familial factors involved in bilingualism and minority language transmission among French and Arabic-speaking children. Participants included 30 children aged 4 to 6 years, born in France, and their bilingual French-Maghrebi Arabic-speaking parents. Children's bilingual language profiles were assessed with the ELAL Scale for Maghrebi Arabic (minority language) and the Neel Scale for French (majority language). Mothers participated in qualitative interviews about cultural and language practices and representations. Interview contents were compared with the children's language profiles. Results indicated that parents closely associated the transmission of the Arabic language with their cultural heritage transmission. The parents of fluent bilinguals had a strong desire to transmit the minority language. Mothers of minority language dominant bilingual children reported little perception of change in their lives since migration. Half of the mothers of majority language dominant bilingual children reported relationship or emotional difficulties with their children. Four minority language transmission types were identified: direct parent-child transmission; indirect transmission through private classes; indirect transmission through visits to family in the parents' native countries; and alternative transmission by another family member. Direct parent-child transmission was most frequent among the fluent bilinguals. Families' processes of hybridity were related to language

transmission and bilingual development of children. Parental cultural affiliations to native country were related to minority language transmission. Perception of change since migration and affiliation to host country may also play a role in harmonious bilingual development. Moreover, the quality of family relationships can affect minority language transmission.

# Transcultural and familial factors in bilingualism and language transmission: A qualitative study of maternal representations of French-Maghrebi Arabic bilingual children

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## Abstract

This qualitative exploratory study examined transcultural and familial factors involved in bilingualism and minority language transmission among French and Arabic-speaking children. Participants included 30 children aged 4 to 6 years, born in France, and their bilingual French-Maghrebi Arabic-speaking parents. Children's bilingual language profiles were assessed with the ELAL Scale for Maghrebi Arabic (minority language) and the Neel Scale for French (majority language). Mothers participated in qualitative interviews about cultural and language practices and representations. Interview contents were compared with the children's language profiles. Results indicated that parents closely associated the transmission of the Arabic language with their cultural heritage transmission. The parents of fluent bilinguals had a strong desire to transmit the minority language. Mothers of minority language dominant bilingual children reported little perception of change in their lives since migration. Half of the mothers of majority language dominant bilingual children reported relationship or emotional difficulties with their children. Four minority language transmission types were identified: direct parent-child transmission; indirect transmission through private classes; indirect transmission through visits to family in the parents' native countries; and alternative transmission by another family member. Direct parent-child transmission was most frequent among the fluent bilinguals. Families' processes of hybridity were related to language transmission and bilingual development of children. Parental cultural affiliations to native country were related to minority language transmission. Perception of change since migration and affiliation to host country may also play a role in harmonious bilingual development. Moreover, the quality of family relationships can affect minority language transmission.

## Keywords

Arabic, bilingualism, France, identity, language transmission, migration

Language acquisition and bilingualism can be studied from many perspectives, including psychiatry, medicine, psychology, the neurosciences, anthropology, sociology, linguistics and demography. During child development, language is a key to communication skills and child psychiatrists are particularly concerned with the assessment diagnosis and treatment of disorders related to language (American Psychiatric Association, 2013). In today's culturally mixed and hybrid world, many children grow up in multilingual environments (Ardila, 2007) with a mother tongue

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different from the majority language of their countries of residence. There is a need to understand the bilingual acquisition process, not only from cognitive and neuropsychological points of view but also in ecological context, from psycholinguistic and transcultural perspectives.

The construct of bilingualism usually stands for the ability to use two languages. Beyond this simple definition, each person has a particular bilingual or multilingual profile (Camara, 2015). In the early 20th century, growing up in a bilingual or bicultural environment was considered a disadvantage and a cause of "mental confusion" (Saer, 1923), psychological distress and moral conflict (Park, 1928). In the second half of the century, however, several studies showed the benefits of bilingualism (Bain, 1974; Peal & Lambert, 1962). Fluent bilingualism may be beneficial for cognitive development (Barac & Bialystok, 2011), associated with increased attentional control, working memory, metalinguistic awareness and abstract and symbolic representation skills (Adesope, Lavin, Thompson, & Ungerleider, 2010). Other studies have found a positive association between biculturalism and psychological and sociocultural adjustment (Chen, Benet-Martínez, & Harris Bond, 2008; Nguyen & Benet-Martínez, 2013).

Language transmission and bilingual acquisition follow individual developmental trajectories influenced by dynamic environmental, familial, social and cultural factors. These trajectories may differ in migrant families. Studies of the mental health of children of migrant families (Stevens & Vollebergh, 2008), find their development marked by hybridity (*métissage*) strategies that are not always harmonious (Rezzoug & Moro, 2011). This raises important questions for transcultural child psychiatry: are parental cultural representations linked to family language practices and thus to children's bilingual development? Is harmonious bilingual acquisition linked to the construction of a harmonious, hybrid cultural and psychological identity? Studying how a child becomes bilingual could contribute to understanding the processes of cultural, identity and linguistic transmission and their interrelations.

The aim of this study was to explore transcultural and familial factors associated with the development of harmonious bilingualism, through qualitative interviews with mothers regarding transcultural and familial representations. A qualitative approach is necessary to study familial and transcultural representations and practices of migrant parents with foreign native languages. As we use it in this paper, the concept "transcultural" refers to a metacultural position considering representations from multiple cultural points of view, the native country as well as the welcoming country of the patient (Moro & de La Noë, 2004).

## Methods

This qualitative study is based on the comparison of language profiles and pathways of language development with the content of qualitative semi-structured interviews of mothers, focused on transcultural and familial representations and language practices.

## Sample

The sample was composed of children and parents identified through parents' voluntary response to recruitment for this study in schools of the city of Paris and its suburbs in France. The ethics committee of the Groupe Hospitalier Paris Nord (North University Hospitals of Paris) approved this study (CEERB N°IRB0006477); approval was also received from the Commission Nationale Informatique et Libertés (French National Commission on Informatics and Liberty). The inclusion criteria were: Arabic-speaking families whose children were born in France, aged 4 to 6, and attending the second or third year of kindergarten (*école maternelle*) in France; children born in France (the study focuses on second-generation migrants, i.e., native-born children of immigrants); and signature of parent information letter and consent form. Children whose parents had two different native languages were excluded from the study.

## Measures

### *Assessment of language profiles and pathways of language development*

Arabic language acquisition was measured with the Language Evaluation for Allophones and New Immigrants Scale (Evaluation Langagière pour Allophones et Primoarrivants, ELAL scale) (Rezzoug, Bennabi-Bensekhar, & Moro, 2018; Moro et al. 2018), a recently developed instrument designed to assess minority mother tongue skills. This ELAL can be used to identify children's skills in any minority language (Bennabi-Bensekhar, Rezzoug, & Moro, 2018; Touhami, Rezzoug, & Moro, 2018; Camara, Rezzoug, & Moro, 2018; Simon, Rezzoug, & Moro, 2018), and has three subscales: *Comprehension* (lexical-semantic vocabulary, colors, shapes and spatial localization); *Expression* (lexical-semantic vocabulary, colors, numbers and spatial localization); and *Storytelling*. The Comprehension and Expression Scale scores range from 0 to 32, and the Storytelling Scale from 0 to 36; these are summed for a total ELAL score that can vary from 0 to 100. The advantage of separating the two expression scores is that the ELAL can discriminate children with isolated vocabulary



expression skills (expression scale) from children who have morphosyntactic and narrative skills (storytelling subscale). The ELAL is conducted by an interpreter who, during the test, speaks the language being assessed exclusively.

French language acquisition was assessed with the New Test for Language Assessment (*Nouvelles épreuves pour l'examen du langage*, N-EEL), a validated and calibrated reference scale assessing comprehension and expression in French (Chevrie-Muller & Plaza, 2001). The authors selected the specific N-EEL items that assess skills equivalent to those tested by the ELAL Scale: numeration, lexical-semantic, spatial and temporal localization and narrative skills. The language profiles were then assessed by individual qualitative analysis and complementary comparison of ELAL Scale scores and N-EEL scores.

Parents answered questions about their children's language development and family language practices (e.g., languages used inside and outside the home between parents and children and among siblings, and the availability of books, TV, radio and oral storytelling in French or Arabic at home).

### Familial representations and language practices

Transcultural and familial representations and language practices were with a semi-structured interview consisting of 18 questions such as: "How is your relationship with your child?", "How important is your mother tongue to you?", "Have you transmitted your mother tongue to your child?", "What does it mean to you?", "What do you want to transmit from your birth country to your child?", "What has changed since you arrived in France?" The interview included other questions concerning school, but this study focuses only on the family environment.

### Data analysis

First, the children's bilingual language profiles were assessed and classified into four categories (Table 1). At the same time, the pathway of each child's language development was explored. Second, the contents of the semi-structured interviews of mothers were analyzed separately for each bilingual profile category, so that

the content of these interviews could be compared with the children's language acquisition.

All interviews were audio-recorded and then fully transcribed. Interviews in Arabic were translated then transcribed into French when necessary (and the transcript extracts used in this paper were translated into English). The accuracy of the translations were controlled by two researchers. Qualitative content analysis was performed (Negura, 2006; Weber, 1990). Each interview was analyzed independently. Answers were then synthesized for each bilingual profile group. Finally, parental interviews were compared across bilingual groups.

## Results

### Characteristics of sample

The study included 30 children in the second and third years of preschool (*moyenne* and *grande sections*): 13 girls and 17 boys. They lived in the city of Paris and its suburbs (of Seine-Saint-Denis and Hauts-de-Seine) in France. Their ages ranged from four years and three months to six years and five months (Mean = 63 months, standard deviation (SD) = five months). We conducted 30 interviews with the mothers of included children; their mother tongue was Maghrebi Arabic (Algerian, Moroccan and Tunisian Arabic), and all spoke French. An interpreter was present for all interviews in case mothers needed or preferred to speak Arabic. One third of the interviews were translated into French before the qualitative analysis. The children were second-generation migrants born in France, with French and Maghrebi Arabic as their languages. Families had from one to five children (mean = 3, SD = 1).

With the exception of one family in a one-family house, they all lived in apartments. There were 17 stay-at-home mothers (two from managerial and professional categories), 11 office, sales, or service staff, and two from higher socio-professional categories. Among fathers, 15 were office, sales, or service staff, five were blue-collar workers, nine were craftsmen, shopkeepers, or entrepreneurs, and one was in a managerial and professional category.

**Table 1.** Categorization of children's bilingual language profiles in the study.

A	Fluent bilingualism	Harmonious bilingualism with ordinary skills in both languages
B1	Minority language dominant bilingualism	Ordinary skills on the ELAL scale (Arabic), low skills on the N-EEL scale (French)
B2	Majority language dominant bilingualism	Ordinary skills on the N-EEL scale (French), low skills on the ELAL Scale scale (Arabic)
C	Language vulnerability	Low skills in both languages

**Table 2.** Bilingual profile of children (N = 30)

	Total Sample	Group			
		A: Fluent bilingualism (n = 13)	B1: Arabic dominant bilingualism (n = 4)	B2: French dominant bilingualism (n = 10)	C: Language vulnerability (n = 3)
Mean age (months) [age range]	63	66 [58–77]	63 [58–70]	61 [57–67]	61 [51–72]
Sex ratio (female/male)	12/18	7/5	2/2	3/7	1/2

### Children's language profiles

Bilingual language profiles for children were distributed as follows: 13 fluent bilingualism (A); four minority language (Arabic) dominant bilingualism (B1); 10 majority language (French) dominant bilingualism (B2); and three with a language disorder and clear difficulties in both languages (C) (Table 2). There was no particular association of children's language profiles with socio-economic status.

### Language practices within families

All mothers reported that at least one of the two parents spoke the minority language to the children. At least one parent of Arabic dominant bilingual and fluent bilingual children was reported to speak very often more Arabic than French. This result was not found in families of French dominant bilingualism. Among the 10 children with French dominant bilingualism, three had one parent who spoke to them exclusively in French. According to the mothers, most of the children had access to oral stories, books, TV and radio in Arabic, with no notable differences between the groups. All children had access to media in French.

Ecological contexts varied widely among the bilingual children in this study, with no simple pattern of bilingual development, environmental conditions and parental practices. Nevertheless, in our sample, the children who had good skills in their minority language had more Arabic input in their intrafamily social interactions, while the input through media did not differ across the language profiles.

### Content of parental interviews

**Family relations and transgenerational transmission.** The mothers had migrated to France mainly because they were married to someone living in France. The other reasons were to study in France, to find work, for political reasons, or to flee terrorism. They described very frequent contact with their families of origin (internet or telephone calls from daily to at least once weekly). They were very invested in family relationships, which

most mothers described as very good. Asked what they received from their own parents and what they transmitted to their children, parents mainly mentioned character traits (for example, calmness, impulsivity, kindness, independence, seriousness, or stubbornness), physical traits, and values (not lying, not mocking or making fun of people, effort, honesty and generosity). Some parents answered more generally, specifying language, education, or respect.

Parent-child relationships were described positively, with strong attachment and great affection. Nonetheless, children in group B2 (French dominant bilingualism) clearly had complicated relationships with their mothers. Mothers described half the children of this group as difficult, not easy, requiring "more presence", averse to separation, or seeking parental attention. One mother had consulted a psychologist for a child's nocturnal enuresis. Only one relationship in group A (fluent bilingualism) was considered "complicated" with emotional immaturity and a need for attention. In group B1 (Arabic dominant bilingualism), relationships were described as close and intense, apart from one mother who said that her child "likes to create alone, to grow up by himself". All relationships in group C (language vulnerability) were described as very close.

### Attachment to the birth country and desire to transmit it.

Many parents discussing their attachment to their country of birth reported they were attached to "everything" from it, especially family, traditions, feasts, weddings, food, kindness of the people who live there, climate, sun, land, sea and the way of raising children. As one mother put it: "Algeria for me, it's everything: my parents, family, country, sea, house, memories, my childhood, all of it." (fluent bilingualism group).

Only one mother, from the fluent bilingual children group, pointed to intense identity conflicts:

What's unfortunate here is that my children and my husband were born here, they are foreigners compared to the people in Morocco, and they are foreigners compared to the people in France. So, sometimes, I want to



What women had to say about the changes in their lives since their arrival referred mainly to their families.

Very good, very good. It is a marvelous change, it is what I had been dreaming of for a long time, I got what I wanted. I have children, an apartment, documents [to stay in France], a job, I have everything, hamdoulah, thanks to God. (fluent bilinguals group)

One mother of a child in the group of fluent bilingual children answered: "In France, you become a woman, you learn to rely on yourself, to do things, to be independent." Another mother in the fluent bilinguals group said: "The change is good... In Tunisia, I had the life of a young girl whereas here, I'm responsible for a husband and a family."

Several mothers referred to the stress and rushed lifestyle in France. Others mentioned that they miss their families. A mother from Algiers (the capital of Algeria, a city more influenced by the French colonial period than other cities of the country) felt that nothing had changed apart from the absence of her parents. She said that Algiers and Paris were similar. Another mother talked about individualism in France and the fact that she was raising her children by herself, with her husband, but no other family members close by.

*Representations of their mother tongue and the objectives of its transmission.* Parental transmission of their native language was valued more highly by the parents who had done so effectively (fluent bilingual and Arabic dominant bilingual children) than by those from French dominant bilingual children group. The groups of parents who transmitted Arabic effectively described their native language as highly important, sometimes even in "first place" as a priority. Some parents considered it an indispensable vehicle for transmission of cultural values: "If you don't transmit the language, you don't transmit the values" (fluent bilinguals group). Another explained: "Language is most important. Language is everything. It is culture, it is everything. Language enters every field, everywhere. And language is a way of life." (Arabic-dominant bilingual group). Other parents consider language as very important but nonetheless as just one part of education: "It is part of education, it is a whole, it fits into it. Its place is thus preponderant." (fluent bilingual group).

Moreover, most parents considered it useful for children to visit the parents' own birth country. The Arabic language was also considered essential for access to religion. In Arabic-dominant bilingual children group, some parents considered Arabic a means of communication, necessary for passing on traditions and religion and to communicate in their country of

birth. Of the mothers in the French-dominant bilingual children group, half either did not provide a clear answer about the importance they attributed to this language or did not consider it especially important. Their answers were simple and brief. The same was true of the mothers in the group of children with low skills in both languages, although two of them underlined the importance of Arabic for transmitting religion. The third stated that Arabic is secondary, after love and solidarity.

The parents' objectives in transmitting their mother tongue to their children, as observed in the interviews, can be divided into three categories: oriented towards the past, the present, and the future. *Past-oriented transmission objectives* referred to the link to the country, traditions, the family's origins and its memories. As one mother concluded, language transmission means continuity. *Present-oriented transmission objectives* referred to the usefulness of the language in children's visits to their parents' countries of origin, and *future-oriented transmission objectives* to the usefulness of the language for the children's future academic career or professional life, and in case they later lived in an Arabic-speaking country. Another objective of transmission was to pass on religion. Their overall attitude might be summarized by this mother: "I think that having two languages is very important, it's two civilizations. French culture and Arabic culture." (Arabic-dominant bilingual children group). Another mother expressed the inverse idea: for her, her child speaking French at school provided a vehicle for the transmission of Western religious precepts: "When they teach them the [French] language, they include their Christian precepts at the same time (...) what leaves the teachers' mouths stays in the children's mouths." (language vulnerability group).

*The mothers' conceptions of their native languages* could be characterized in terms of three ontologies: language as an independent entity; language as a vector of transmission; and language as a secondary concept and an undifferentiated dimension of culture.

The mothers in the group of fluent bilingual children considered their native language to be indispensable. Most, however, did not consider their language an autonomous and independent entity but clearly linked it to the transmission of a connection to their birth country and as embedded in a larger cultural transmission. Another mother, on the contrary, said that the language was not essential and that education and connection with family were more important. Yet another thought of her native language mainly as a way to pass on identity and religion. Several parents were intensely invested in their mother tongue, but in a way that was embedded in their desire to transmit to their children their culture, religion, attachment to family and



country. "To me, it is a factor of wealth. One [language] does not subtract from the other."

If they don't understand something, I tell them "this is how this thing is named. In French, in Arabic if I know it. And next time, you'll have to know it." Everything is based on the parents. If we speak to them in French, it is too late. In addition to that, there is school in French. They would never learn Arabic. (mother from the fluent bilingual children group)

They belong to both countries. What I wish, it may be an ideal, but it is that they should be proud both of belonging to an Arab-Muslim culture and to a Western culture. I would like them to be proud of the good things in Arab culture and the good things in Western culture as well. (mother from fluent bilingual children group)

### Minority language transmission types

Four minority language transmission types were identified: (1) direct parent-child transmission; (2) indirect transmission, by private classes; (3) indirect transmission, through visits to the parents' native countries and their families there; and (4) alternative transmission, by another family member.

*Direct parent-child transmission* concerned parents for whom their mother tongue was the language spoken at home. Transmission was often perceived as obvious. Sometimes, it was associated with a high level of conceptualization and intentionality, as in the following quotation:

I transmitted my language and it was a choice. It is not... it's not by chance. It's a choice. I thought, hmm... French won't be lost because he'll find it, hmm... at school, in the street, in supermarkets, on TV, wherever he goes, he'll find French. So, there's no fear for his French. Arabic – it's at home if I teach him... if I don't teach him Arabic at home, he won't find it anywhere. (fluent bilingual children group)

One mother from the fluent bilingual children group described an elaborate hypothesis about parental representations of this transmission. She identified two tendencies: one was conservative and insisted on transmitting Arabic, the other tended to consider that speaking Arabic at home could complicate integration and academic success. Another mother had a parallel hypothesis. She felt that more recent migrants were better educated and did want to transmit their native language, whereas some earlier migrants, with lower

social and economic backgrounds, had integration difficulties in both countries and had less desire (or less persistence in their efforts) to transmit the language. She connected the feeling of belonging to a particular socio-cultural milieu and the transmission of language. Moreover, she felt that some parents, who did not feel comfortable in their new home country or in their birth country, might not adequately transmit either language.

Direct parent-child language transmission was reported in the fluent bilingual group, except for two children who had learned Arabic from their grandmothers. Arabic instruction was sometimes completed by private lessons. Direct parent-child transmission was observed in Arabic-dominant bilingual group, whereas in French-dominant bilinguals group, parents clearly relied more on indirect transmission through private classes or lessons and visits to their native lands. No pattern of transmission strategy was identified among parents from the language vulnerability group.

### Discussion

The aim of this qualitative study was to explore the possibility of interrelations between the representations of cultural practices in families and their children's bilingual development. We can hypothesize that representations and metarepresentations interact with parental behavior that consequently influences parent-child interactions and then in turn children's development and acquisitions. We use the term 'representation' to designate a mental construct corresponding to a perception, an emotion, a conception or a shared social practice, behavior, idea or belief. The term metarepresentation refers to mental representations of a representation (Sperber, 2000). We focused specifically on the parental representations of cultural transmission and affiliations in this study. From the perspective of cognitive processes, studying the acquisition of bilingualism at the cognitive level must also consider the ecological context. From a psychological perspective, transmitting a language relies on multiple processes, including emotional relationships, that are partly influenced by cultural factors. The relations between culture, language and thought are studied in interdisciplinary research fields (Imai, Kanero, & Masuda, 2016), but few studies have focussed specifically on the relations of parental cultural representations with bilingual acquisition.

In this study, we attempted to bridge gaps between bilingual and bicultural structuration and the transmission from parents to children. In the scientific literature, bilingualism is typically studied by linguists and cognitive psychologists, whereas biculturalism is more



often researched by social and cross-cultural psychologists (Grosjean, 2015). This study suggests that parents' cultural affiliations (the degree to which they identify with either/and origins or host country) may be related to children's bilingual development, among other factors, such as quality of parent-child emotional interactions and children's psycho-affective development. Further research integrating cultural, linguistic, and psycho-affective factors may be warranted to explore this question. This qualitative study is part of a larger mixed-methods study which includes children of bilingual families in Maghrebi Arabic-French, Soninke-French and Tamil-French languages. The relevance of representations of cultural affiliations, cultural transmission and perception of change and hybridity related to language transmission in our study supports the importance of research that bridges the gap between studies on bilingualism and transcultural approaches.

### *The context of French-Maghrebi Arabic bilingualism*

The concept of bilingualism refers to fluency in two distinct languages. However, the ways these languages are used in content differ. According to the *Organisation Internationale de La Francophonie*, in Algeria and Morocco, one third of the population speaks French and in Tunisia, half of the population speaks French (OIF, 2019). Many people in North Africa mix Maghrebi-Arabic and French together and combine them differently according to the situation (Taleb Ibrahim, 2006; Ennaji, 1991). In the home country context, there often appears to be no fixed boundary between these two languages. Maghrebi countries have a history of multiple hybridizations, a period of French colonization, and active Arabization policies. Language practices there are a mosaic of Maghrebi Arabic, Modern Standard Arabic, French and several varieties of Berber languages—each of which influences the each others (Bennabi-Bensekhar, et al., 2018).

The choice of transmitting a mother tongue depends on multiple factors such as historical, political and sociological context, that can affect parental representations. French is the only official language of France (Assemblée nationale, 1958 [2015]). France has a history several centuries long of linguistic homogenization, and regional minority languages have been banned in schools or government offices at different times in history (Harguindeguy & Cole, 2009). While some countries, such as Canada or Australia, value diversity of cultures, France has a history of assimilation, promoting the exclusivity of French identity (Beauchemin, Hamel, & Simon, 2016). In France, maintaining one's ethnic identity can even be seen as the evidence of incomplete assimilation (Bloemraad, 2007). Similarly

declaring a hyphenated identity can be perceived negatively (Simon, 2005). The process of language transmission depends on language use context, status and functions (Bourdieu, 1977, 2014). This process is influenced by various social, cultural and psychological factors: parental cultural identity, children's affective and cognitive development, children's cultural affiliations. Children's cultural affiliation is related to a variability in language profiles (Bennabi-Bensekhar, 2010). Bourdieu developed the concept of a "linguistic market" to describe how some forms of communication are more valuable to a speaker than others in a particular social situation (Bourdieu, 1977, 2014). In France, competition of the French language is strong and has eroded the positions of the minority languages through an "erosion" mechanism (Héran, 2004). Moreover, the French anthropologist Althabe described how xenophobia against North African migrants increased since the 1970s, in a context of increased ethnic and social segregation (Althabe, 1985). In France, the politics and the media can stigmatize immigrants and transmit the false idea that France is a country of massive illegal immigration that creates an economic burden (Héran, 2004). Arabic is being transmitted increasingly, associated with French, but monolingual Arabic transmission in France is rare (Héran, 2004). Current political topics, such as islamophobia, had no significant importance in the parental interviews. Other works focus specifically on the link between cultural transmission from Northern-Africa and some current political debates such as religious radicalism (Touhami, Mansouri, Rousseau, & Moro, 2017).

### *Determinants of language transmission*

The results of this study highlight the importance of language practices in families and in particular of parental language input into their children's minority language acquisition. These results are consistent with other studies showing that children's use of the minority language is correlated with specific home-input patterns, with success most likely associated with contexts in which both parents use the minority language, and at most one parent speaks the majority language at home (de Houwer, 2007).

A recent review (Abutalebi & Clahsen, 2017) discusses the role of linguistic input and experience in bilingual language acquisition. The amount of input may have a major effect on whether a minority language is learned, and language status and attitudes also appear to play a role (Pearson, 2007). There may be a threshold after which more exposure does not matter (Gathercole & Hoff, 2007; Pearson, 2007). When families are proactive and provide daily activities for children in the minority language, children learn



that language (Pearson, 2007). Fluent bilingualism appears to require input in a context of social interaction in both languages and the parental discourse strategies play a role (Mishina-Mori, 2011).

Of the minority language transmission types, the input strategies of parents (de Houwer, 2007) in the language transmission type we named *direct parent-child transmission* have been studied more often than other types, such as the *indirect* and *alternative* language transmission types. One qualitative study of 50 Eastern European parents residing in the USA found results quite similar to ours (Nesteruk, 2010). It describes four strategies: 1) parents speaking their native language at home, 2) transmission by grandparents and visits to the countries of origin, 3) use of ethnic community resources (daycare centers, schools, and language classes), 4) interactions with ethnic friends. These strategies are consistent with those reported in our interviews, apart from the interactions with ethnic friends, a difference probably explained by the older age (mean: 11 years) of the children studied by Nesteruk.

The parents of the fluently bilingual children in our study shared the will to transmit the minority language and the belief that it is a cultural heritage from the birth country. Some researchers suggest that dual language learning is linked to immigrant status, related to parents' beliefs and to their actual patterns of language use (Pearson, 2007; Eilers, Pearson, and Cobo-Lewis, 2006). A study among Cuban-American mothers examining representations of language transmission observed that lower socioeconomic classes emphasize majority language learning more whereas high socioeconomic classes showed more concern about protecting transmission of the minority language and culture (Lambert & Taylor, 1996). Other research makes observations consistent with ours, reporting the importance of family in the transmission of the minority language, the symbolic function of language transmission as a mean of transmitting culture and family heritage, and the advantages of the minority language for future work (Beauchemin, et al., 2016). 'Family' is a social unit that has multiple definitions that include two main principles: common descent and co-residence. The concept of family contrasts with some Arabic meanings such as 'family' (*ahal*), 'household' (*bayt*) and 'kin group' (*'a'illa*) (Young & Shami, 1997). In the Maghreb, such as in Morocco, three generations often cohabit in a same home (Gandolfi, 2015). Family relationships are complex, multigenerational, include dense informational transfer via language and are variable and influenced by cultures (Flinn, 2011). The closeness of family relationships reported in our interviews is consistent with the 'collectivistic' characteristic of some African families cultures, that

emphasize collective identity and intergenerational relationships (Falicov, 1983). The parental metarepresentations of the present study closely associated the transmission of Arabic language with their cultural transmission. Our results suggest that cultural affiliation to the native country may be associated with minority language transmission, and perception of change and affiliation to host country may also be related to harmonious bilingualism. These results are consistent with demographic studies in France that reported that the will of parents to return someday to the native country and family affiliation to host country are associated with the transmission of a minority language to the children (Héran, 2004).

The issue of cultural hybridity and its relation to mother-tongue transmission emerged in this study. The parents of minority-language-dominant children did not perceive change with their migration, while some mothers of fluent bilingual children clearly expressed the hope that their children would harmoniously adopt both their native and host country cultures and languages. Some children of migrants grow up exposed to both a cultural and a linguistic double structuration of two worlds: the world and the language of family and the world and the language of school. They may build their cultural structuration on a cleavage, which means that the two cultural worlds the children grow up in can be conflictual. This structuration may be fragile in case of cleavage between these two cultural worlds (Moro & de La Noë, 2004; Moro & Nathan, 2004). This specific bilingual and bicultural situation can contribute to psychic conflicts and influence language acquisition or contribute to language disorders such as selective muteness (Di, Simon & Moro, 2009). The concept of *métissage* (Baubet & Moro, 2000; Sturm et al., 2011) underlies the possibility that culturally mixed children or adults can belong to two or more cultures simultaneously and harmoniously.

### Consequences of bilingualism

Our results raise the issue of an association between the parent-child affective relationship and minority language transmission. In this study, half the parents of majority language dominant bilingual children reported difficult relationships with their children. Is a good parent-child relationship a factor in the transmission of the minority language? Can difficulties in affective relationships lead the child to refuse to speak the parent's language? Some studies suggest that children's relationships with their parents play a role in their development of bilingual skills (Oades-Sese & Li, 2011). Reciprocally, when parents do not speak the majority language, children's limited proficiency in the minority language can hinder them from sharing



intimate feelings in that tongue and thus impede a closer emotional relationship between them (Baolian Qin, 2006).

Bilingualism may have benefits for social behavior. A US study that focused on 12,000 immigrant children from various Asian countries reported the lowest levels of emotional and behavior problems in fluent bilingual and non-English-dominant bilingual children, the highest levels of emotional and behavior problems in the non-English monolingual children, and intermediate levels of these problems in white English monolingual children (Han & Huang, 2010). These findings suggest that bilingualism provides benefits for emotional and behavioral well-being.

### Limitations

This study used a self-selected convenience and may not be representative of the range of experiences of bilingualism among immigrants from the Maghreb or other groups in France. This study used the ELAL Scale to assess minority language skills (Rezzoug et al., 2018; Moro et al., 2018). This transcultural tool assesses children's language comprehension, vocabulary and narrative skills in any language. For data analysis, we chose to classify the children's bilingual profiles into four groups. We note, however, that these profiles are actually more of a continuum from high skills in both languages to difficulties in both languages, and it was difficult to categorize some children in one group or another. Even if a bilingual child has low semantic scores in each language separately, the sum of both language scores may well show normal semantic skills (Bedore & Peña, 2008).

Language profiles are dynamic throughout the pathway of language development. This study evaluated children at a single time along this pathway, and language profiles can change substantially within months or years. A longitudinal study showed that consistency in a parent's language choice does not guarantee the child's constant use of the parent's language (Mishina-Mori, 2011). Transcultural longitudinal studies are needed on bilingual development.

### Conclusion

This qualitative study explored transcultural and familial factors involved in the development of harmonious French-Maghrebi Arabic bilingualism among children of this origin in France. Parents closely associated the transmission of Arabic language with their cultural heritage transmission. Four minority language transmission types by migrants were identified: direct parent-child transmission, indirect through private lessons, indirect relying on visits to the parents' native lands, alternative transmission by another family

member. The direct parent-child transmission type was the most common among the fluent bilingual children of this study. The parents of fluent bilinguals had a strong will to transmit the minority language and attached great importance to this transmission. Parents of minority language dominant bilingual children reported little change in their lives since migration. Half of the mothers of majority language dominant bilingual children reported relationship or affective difficulties with their children, and nearly all of them had no plans to return to live in their birth country.

This study highlights the relationship of language transmission and bilingual development to representations of cultural affiliations, cultural transmission and perception of change and hybridity. Perception of change and affiliation to host country may also be related to harmonious bilingualism. The results also question whether the quality of parent-child affective relationship may interfere with minority language transmission. Parental hybridity (or *métissage*) may influence child's bilingual development and language transmission.

Clinicians need to be able to provide reliable information to parents who ask about the utility or importance of transmitting their native language and about transmission strategies. Understanding language acquisition in bilingual children as a dynamic process that depends on its ecological context, assessed in terms of quantitative and qualitative interactions, affectivity, cultural practices and representations, should have a positive effect on psychiatrists' approach to the clinical understanding and care of culturally hybrid patients and their psychopathology, especially communication disorders, in bilingual children.

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and writer. For 25 years, first at Avicenne Hospital in the suburbs of Paris, and now in the center of Paris, at Cochin Hospital, she has been developing a transcultural clinic that tries to adapt our mental health care settings, techniques, and research methods to immigrant families and their children. Head of the department of child and adolescent psychiatry at University Hospital Cochin and director of a research team in transcultural psychiatry at INSERM U1018.

## 5. Pratique clinique : dispenser des interventions articulant approches biologiques et sociales

Dans la pratique clinique, mettre en œuvre cette pluralité d'approches et faire coexister ces différentes narrations de la maladie sont des défis. L'articulation des soins pluralistes dans la pratique clinique pourrait être favorisée par certains moyens : (1) former les cliniciens aux approches pluralistes ; (2) garantir la disponibilité de ces interventions pour les patients ; (3) acquérir les compétences nécessaires pour déterminer la séquence temporelle des soins : quelle intervention est prioritaire et/ou peut faciliter l'autre (par exemple, une intervention familiale peut être indispensable avant l'acceptation d'un médicament, ou inversement) ; (4) promouvoir des débats et échanges en staffs de psychiatres formés à des approches distinctes (pour les patients complexes).

Nous proposons deux exemples portant sur la schizophrénie et l'autisme, que nous développons dans le **Tableau 1** ci-après. Les troubles du comportement alimentaire sont un exemple de trouble dont la prise en charge nécessite une approche pluraliste. Elle requiert, plus largement, une approche transdisciplinaire entre psychiatres, pédiatres, endocrinologues et professions paramédicales (Blanchet-Collet, 2016; Rezakhany et al., 2022). Les troubles du spectre autistique sont un autre exemple de troubles expliqués par des théories biologiques, mais pris en charge notamment par des interventions psychothérapeutiques ciblant les aspects comportementaux et interactionnels, et comportant des facteurs culturels et sociaux qui influencent les croyances communautaires et la compréhension de l'autisme par les familles (Kang-Yi et al., 2018) (voir **Tableau 1**). Certains auteurs ont proposé des modèles intégratifs qui englobent des approches développementales, multidimensionnelles, écosystémiques et multifactorielles et qui sont associés à des interventions pluridisciplinaires (Cohen et al., 2021).

Comme illustration d'une intervention pluraliste, nous avons mené une recherche sur un programme spécifique de soins de santé mentale pour les mineurs non accompagnés : la Co-thérapie Multimodale pour les Mineurs Non Accompagnés (MUCTUM) (**Article 5**).

### **Article 5. Multimodal Co-Therapy for Unaccompanied Minors: a qualitative study**

**Sélim Benjamin GUESSOUM, Sevan MINASSIAN, Pauline DE STAËL, Fatima TOUHAMI, Madeline DIGIOVANNI, Rahmeth RADJACK, Marie Rose MORO, Laelia BENOIT**

*Accepté pour publication dans la revue Child and Adolescent Psychiatry and Mental Health, 2022 (impact factor : 7.5 ; rang A)*

Cette consultation combine une approche biologique standard (y compris traitement pharmacologique), une approche institutionnelle (visant à améliorer la relation et la communication entre l'éducateur et le jeune, et à résoudre les problèmes stressants de la vie quotidienne), une approche transculturelle (l'interprète parle la langue maternelle du patient et constitue un lien avec le pays d'origine, les affiliations culturelles, la famille, et les soins traditionnels), et une approche narrative (narration de l'histoire du jeune, de la migration et du traumatisme). MUCTUM vise à fournir une approche pluraliste permise par deux thérapeutes aux formations différentes (un psychiatre et un psychologue), enrichie par la participation d'un interprète et de l'éducateur du jeune. MUCTUM est cohérent avec l'idée que l'approche pluraliste nécessite une coopération étroite entre les psychiatres, les psychologues et les travailleurs sociaux (Ghaemi, 2004). Dans cette étude, nous émettons l'hypothèse qu'un axe pour articuler ces interventions est de suivre une hiérarchie des besoins, à travers une approche centrée sur le patient et la résolution de problèmes. Nous formulons en outre l'hypothèse que l'approche pluraliste est justifiée par des interventions distinctes, dans une seule consultation, de plusieurs soignants ayant des formations aux approches biologiques et culturelles. Des recherches sur la mise en œuvre des approches pluralistes, de type *implementation research* ou Recherche de Mise en Œuvre, seraient justifiées en psychiatrie de l'enfant et de l'adolescent (Proctor et al., 2009). Cette étude contribue donc à la réflexion sur les soins pluralistes :

- en étudiant et décrivant un dispositif articulant plusieurs approches,
- en rapportant l'expérience des patients de ce dispositif,
- en discutant les résultats et en formulant des hypothèses pour soutenir la mise en œuvre de soins pluralistes.

La question des interventions thérapeutiques articulant approches biologiques et sociales soulève celle du besoin de formation des professionnels, ce que nous discutons au paragraphe suivant.

## Tableau 1. Exemples

### A. Une illustration avec un cas commun de trouble psychotique

Un garçon de 14 ans originaire du Maroc reçoit un diagnostic de trouble schizophrénique, caractérisé par un délire de possession (djinn) ; la famille n'accepte pas le traitement antipsychotique.

<b>Approche biologique</b>	<ul style="list-style-type: none"><li>- Des altérations génétiques, moléculaires et fonctionnelles cérébrales sont retrouvées dans la schizophrénie (Lakhan &amp; Vieira, 2009)</li><li>- Recherche d'une étiologie spécifique par des examens complémentaires biologiques et neurologiques (Kurukgy et al., 2021)</li><li>- Traitement antipsychotique (Driver et al., 2020)</li></ul>
<b>Approche sociale</b>	<ul style="list-style-type: none"><li>- La migration est un facteur de risque de trouble schizophrénique (Chen et al., 2018)</li><li>- La possession par un djinn est une étiologie culturelle courante des symptômes positifs dans les cultures liées à l'islam (Lim et al., 2018)</li><li>- La représentation et narrations familiales et culturelles de la maladie sont centrales dans l'expérience de la maladie et l'adhésion aux soins (Rodolico et al., 2022 ; Tranulis et al., 2011)</li></ul>
<b>Apports d'une approche pluraliste</b>	<ul style="list-style-type: none"><li>- La prise en compte de la narration du patient, de la famille et de la culture favorise l'alliance thérapeutique et l'adhésion aux soins, la collaboration avec les soignants et assure des soins éthiques</li><li>- L'approche biologique est nécessaire dans la schizophrénie, mais inefficace (car inapplicable) sans l'alliance avec la famille et le patient</li></ul>



## **B. Illustration avec l'exemple du trouble du spectre autistique**

<b>Approche biologique</b>	<ul style="list-style-type: none"><li>- Des altérations au niveau génomique, moléculaire, cellulaire et des circuits cérébraux sont retrouvées dans l'autisme (Willsey et al., 2022)</li><li>- Les traitements pharmacologiques sont utiles (exemple : les taux de mélatonine sont diminués dans l'autisme, et la mélatonine peut améliorer le sommeil et le comportement diurne (Reading, 2012 ; Schroder et al., 2019; Tordjman et al., 2005)</li></ul>
<b>Approche sociale</b>	<ul style="list-style-type: none"><li>- Les interventions se concentrent sur les niveaux interactionnels et communicationnels, avec les patients et leurs familles (Fuentes et al., 2021)</li><li>- Les facteurs culturels et sociaux influencent les croyances communautaires et la compréhension de l'autisme par les familles (Kang-Yi et al., 2018)</li><li>- Peu de connaissances sont disponibles sur les adaptations nécessaires pour rendre les interventions faisables, acceptables et efficaces dans les contextes à faibles ressources (de Leeuw et al., 2020)</li></ul>
<b>Apports d'une approche pluraliste</b>	<ul style="list-style-type: none"><li>- Des adaptations culturelles et contextuelles sont nécessaires et doivent être étudiées pour rendre les interventions réalisables, acceptables et efficaces dans les pays non occidentaux</li><li>- la pratique clinique auprès des patients atteints de trouble du spectre autistique, un trouble biologique, est ancrée dans les interactions parents-enfants, qui varient selon les cultures</li></ul>

## **Article 5. Multimodal Co-Therapy for Unaccompanied Minors: a qualitative study**

### **Multimodal Co-Therapy for Unaccompanied Minors: a qualitative study**

**Sélim Benjamin GUESSOUM, Sevan MINASSIAN, Pauline DE STAËL, Fatima TOUHAMI, Madeline DIGIOVANNI, Rahmeth RADJACK, Marie Rose MORO, Laelia BENOIT**

*Accepté pour publication dans la revue Child and Adolescent Psychiatry and Mental Health, 2022*

Impact Factor de la revue

7.5

### Résumé

Background: Unaccompanied refugee minors - or unaccompanied minors - are children and adolescents who have been separated from parents and other relatives and are not being cared for by an adult. Unaccompanied minors are a vulnerable population, with numerous stressors and complex psychiatric symptoms necessitating specialized mental health care. This study explores patients' experiences of a Multimodal Co-Therapy for Unaccompanied Minors (MUCTUM), which encompasses cultural, biological, narrative & institutional approaches to care.

Methods: MUCTUM is a co-therapy program for unaccompanied minors, with a psychiatrist, psychologist, native-language interpreter, and caseworker for each patient. In this qualitative study, we interviewed adolescents about their experiences with MUCTUM and analyzed these semi-structured interviews using a phenomenological framework (Interpretative Phenomenological Analysis).

Results: Qualitative analysis of 16 interviews uncovered four overarching domains: (1) Unaccompanied minors' experience of mental health problems includes strangeness, loneliness, stigmatization, and distrust of mental health care; (2) MUCTUM creates a safe space through care providers who foster trust, adherence, and feelings of safety or self-acceptance; (3) Helpful interventions during therapy include the use of native language, cultural mediation, and supportive

relationships with caseworkers and families; and (4) Narrating one's story and traumatic events is perceived as liberating if carefully guided and not rushed.

**Conclusion:** This study suggests that MUCTUM therapy may efficiently support unaccompanied minors' mental health by acknowledging their hierarchy of needs. Psychotherapeutic strategies include creating a safe place, providing culturally appropriate care and patient-centered therapy, addressing concrete problems, supporting relationships, and making use of *limited reparenting* in therapy. Delayed and progressive inquiry about traumatic events may be beneficial. Replication of these findings and their field application is warranted.



# Your submissions

## Track your submissions

### **Multimodal Co-Therapy for Unaccompanied Minors: a qualitative study**

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*Child and Adolescent Psychiatry and Mental Health*

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# **Multimodal Co-Therapy for Unaccompanied Minors: a qualitative study**

**Sélim Benjamin GUESSOUM\*, MD (1,2,3), Sevan MINASSIAN, MD (2), Pauline DE STAËL, MD (1), Fatima TOUHAMI, PhD (2), Madeline DIGIOVANNI (4), Rahmeth RADJACK, MD PhD (1,2,3), Marie Rose MORO, MD PhD (1,2,3), Laelia BENOIT, MD PhD (3, 4)**

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## **Abstract**

### **Background**

Unaccompanied refugee minors - or unaccompanied minors - are children and adolescents who have been separated from parents and other relatives and are not being cared for by an adult. Unaccompanied minors are a vulnerable population, with numerous stressors and complex psychiatric symptoms necessitating specialized mental health care. This study explores patients' experiences of a Multimodal Co-Therapy for Unaccompanied Minors (MUCTUM), which encompasses cultural, biological, narrative & institutional approaches to care.

### **Methods**

MUCTUM is a co-therapy program for unaccompanied minors, with a psychiatrist, psychologist, native-language interpreter, and caseworker for each patient. In this qualitative study, we interviewed adolescents about their experiences with MUCTUM and analyzed these semi-structured interviews using a phenomenological framework (Interpretative Phenomenological Analysis).

### **Results**

Qualitative analysis of 16 interviews discovered that unaccompanied minors felt misunderstood before participating in MUCTUM, describing a sense of strangeness and loneliness in relation to psychiatric symptoms. Several youths experienced triple stigmatization: of being unaccompanied minors, of suffering from psychotrauma, and of being mental health patients. We further describe three overarching domains that inform on MUCTUM support to unaccompanied minors : (1) A safe space for unaccompanied minors; (2) Helpful interventions during therapy; and (3) Narrating one's story can "set us free" if guided carefully by care providers.

### **Conclusion**

This study suggests that MUCTUM therapy may efficiently support unaccompanied minors' mental health by acknowledging their hierarchy of needs. Psychotherapeutic strategies include creating a safe place, providing culturally appropriate care and patient-centered therapy, addressing concrete problems, supporting relationships, and making use of *limited reparenting* in therapy. Delayed and progressive



inquiry about traumatic events may be beneficial. Replication of these findings and their field application is warranted.

**Keywords**

unaccompanied refugee minors, migration, psychotherapy, narrativity, trauma, transcultural psychiatry

## Introduction

Unaccompanied refugee minors - or unaccompanied minors (UM) - are children and adolescents who have been separated from both parents and other relatives and are not being cared for by an adult.<sup>1</sup> The refugee population included an estimated 153,300 UM worldwide in 2019.<sup>2</sup> UM are a vulnerable group of refugees and experience a high rate of psychiatric symptoms with intricate post-traumatic, transcultural, family, educational, and legal struggles.<sup>3</sup> The cultural and political backgrounds of UM's native countries are often very different from those of their host countries, and these cultural differences can confuse caseworkers and care providers, who are often untrained in caring for adolescents in a migratory context.

UM frequently exhibit mental health problems, with a high prevalence of anxiety (10-85%), depression (12-76%), post-traumatic stress (17-85%), and behavioral problems, and these symptoms are often chronic.<sup>4-8</sup> UMs' post-traumatic symptoms are complex, and standard nosographies capture only partial features of their clinical expression.<sup>9</sup> Moreover, some adolescents face specific challenges: debt, prostitution, human trafficking, acute stress related to the asylum process,<sup>10</sup> and the risk of "aging out" of the Child Status protection. Such factors aggravate the psychological vulnerability of these adolescents, but UM can have positive long-term outcomes if they are provided with appropriate health and psychosocial protection.<sup>2</sup>

Providing appropriate care for UM is a challenge for healthcare institutions due to cross-cultural factors. UM's personal trajectories can affect the acquisition of certain competencies in their native culture and may create difficulties with acculturation.<sup>5</sup> Cultural misunderstandings between UM and care teams can create barriers and misunderstandings at the educational, behavioral, psychological and emotional levels. Regarding psychiatric care, high rates of misdiagnosis are observed in migrant populations.<sup>11</sup> Therefore, there is a need for specialized mental health care for UM, with cross-cultural competencies and a focus on the migration experience and complex trauma.

To date, few studies have been published on therapies for UM,<sup>12-14</sup> requiring further evaluation of informed strategies for these young patients. Quantitative assessments of interventions designed for

UM have failed to provide significant findings, due to small samples and heterogeneous populations. Similarly, migrant patients tend to be excluded from prospective cohorts particularly because of language barriers, leading to insufficient scientific knowledge on early mental health care for these minority groups.<sup>15,16</sup> Qualitative research appears an effective framework to overcome this challenge, as it highlights the singularity of individual views and helps refine patient-centered approaches.<sup>17</sup> We designed this qualitative study to address another shortcoming in regard to UM's mental health care: most standardized mental health screening tools did not undergo transcultural validation, are biased if used with interpreters, refer to concepts that are hardly understood by some UM, and are not always culturally appropriate.<sup>14</sup>

In the Adolescent Medicine department of Cochin Hospital, Paris, France,<sup>18</sup> a specific co-therapy was created to meet the special needs of UM, titled Multimodal Co-Therapy for Unaccompanied Minors (MUCTUM). It consists of monthly consultation with a psychiatrist, a psychologist, an interpreter-mediator, a social work caseworker, and the patient. Every meeting provides a combination of approaches: the psychiatric and psychological assessment, the transcultural psychiatry approach, the pharmaco-biological approach through medications, the institutional approach with the participation of the UM's caseworker, and a narrative approach. The objective of this study is to explore patients' experiences of MUCTUM to identify the possible beneficial features of this set-up and possible shortcomings, share this knowledge, and improve interventions for UM.

## **Methods**

### **Multimodal co-therapy description**

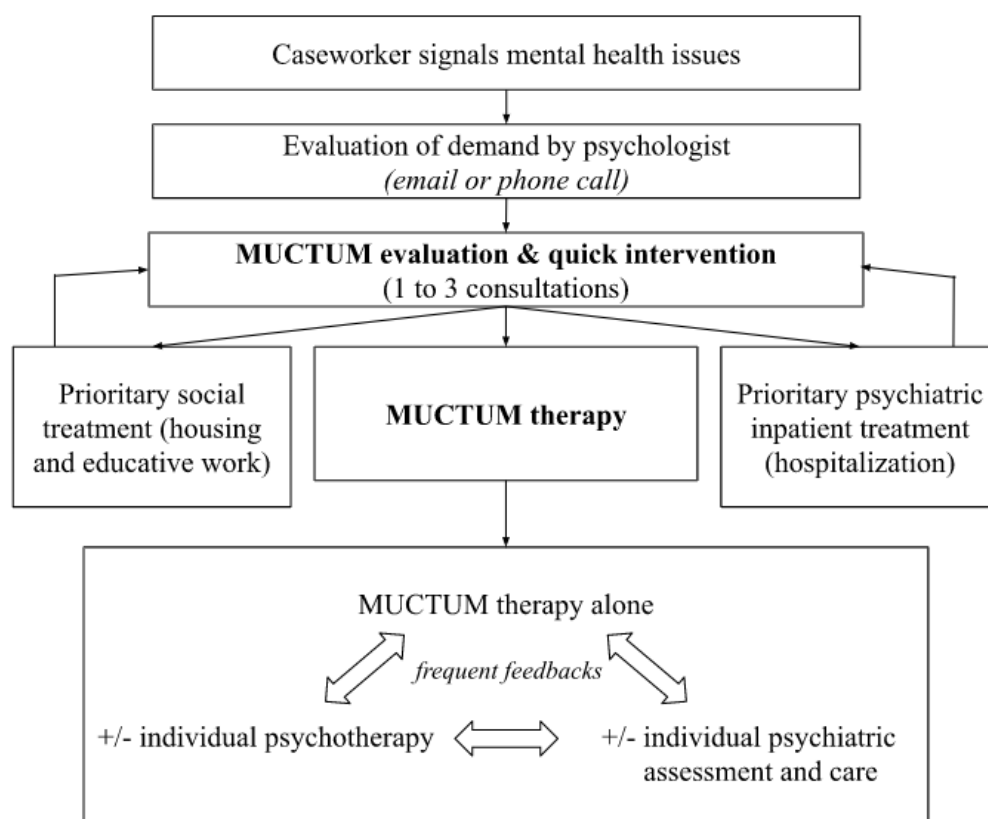
#### **Set-up and first consultations**

MUCTUM operates monthly, or weekly during acute phases. The team includes ethnically diverse providers and consists of a psychiatrist, a psychologist, the caseworker assigned to the adolescent, and an interpreter. The interpreter is a professional translator who is also trained in cultural mediation and attends every session.<sup>19</sup> MUCTUM aims to provide a pluralist approach in which mental health

providers efficiently integrate the psychiatric and psychological assessments and interventions including biological, institutional, transcultural and narrative approaches.<sup>3,20,21</sup>

During the first session, care providers introduce themselves and the purpose of MUCTUM. Care providers explicitly welcome the patient (“we are happy to receive you, be welcome”), and explain the set-up and the “rules” of the program (confidentiality, kindness, consistent interpreter presence, and ability to speak in both languages whenever). Up to three sessions are dedicated to creating a safe place for the patient, psychiatric and psychological assessment, and first-line therapeutic actions. The remainder of MUCTUM is implemented following the course described in **Figure 1**.

**Figure 1. MUCTUM patient-centered treatment approach procedure**



First-line therapeutic actions include addressing physical symptoms (including pain and sleep problems) and active communication with other professionals caring for the UM (social workers, caseworkers, nurses, etc). These first-line actions help build a therapeutic alliance by showing the UM

that care providers can solve concrete problems, give priority to what the youth sees as a priority, and restore a feeling of security in his/her daily life environment.

### **Biological approach**

Care providers accomplish the usual biological approach by performing a standard psychiatric assessment, but the multimodal emphasis allows psychiatrists to include social factors. Facilitated by the caseworker and the interpreter, care providers are therefore able to relate the UM's symptoms to social factors and respond accordingly, rather than having a solely pharmacological approach.

### **Institutional approach**

An institutional approach is accomplished by the caseworker, who provides a link with the Children's Foster Home, and who can help address the patient's behavior, daily life and school problems, and administrative aspects.

### **Transcultural approach**

In addition to speaking the UM's native language and being from the patient's cultural group, the interpreter is preferably trained as a cultural broker.<sup>19</sup> This allows for a better understanding of the patient's needs and suffering by clarifying culturally-coded representations and symptoms, so that providers can give appropriate care. The interpreter is a link with the native country, ancestors, and childhood, and allows the team to navigate linguistic nuances and cultural misunderstandings.

### **Narrative approach**

The co-therapy model includes a narrative approach: Narration is based on positive life events, positive attachment figures, good memories in the native country (i.e, feasts, food), personal affiliations (i.e. namesakes, parents, grandparents), and verbalization of the UM's competencies. For example, some adolescents initially deny ever attending school, but are then able to clarify that they acquired some education at religious school. UMs narrate their migratory journey, including adverse life events if comfortable doing so, and set the pace of this sharing process. Being allowed to narrate only positive life events for several sessions promotes a feeling of safety in the therapy setting.



Narration is supported by two exercises that materialize the patient's journey. First, in the "circles of time," the patient draws three circles, one for the past, present, and future, and attributes colors to each. The UM then explains why they drew, shaped, and colored the circles in such a way, as a support of narration of their path. Second, in the "three objects," the patient is invited to bring (or think about) three objects that symbolize past, present, and future, to support the narrative process.<sup>21</sup>

### **Qualitative research description**

This qualitative monocentric study follows the consolidated criteria for reporting qualitative research (COREQ, Supplementary Materials) and has been approved by the Ethics Committee of Paris University (CEEI/IRB n° 00012021-57). We provided clear oral and written information about the study and obtained verbal and written consent.

### **Population, data collection and analysis**

We recruited volunteer participants through purposive sampling among UM who attended MUCTUM therapy in Cochin University Hospital, Paris, France. We stopped recruiting new patients when data saturation was reached, meaning that the analysis of new interviews no longer provided new findings. Three trained researchers conducted semi-structured interviews, either face-to-face or online. Researchers introduced themselves to participants before the day of the interview, and informed UM of the research purpose. Interpreters participated in the interview as needed. The interview guide was adapted iteratively during the study and included sensitizing questions about the following topics: the representation of psychiatric symptoms and care in their home countries and the host countries, what happens and what patients experience during therapy, how patients talk about themselves, the role of the caseworker and interpreter, and how family issues are discussed during therapy. The interviews were audio recorded, anonymized, and transcribed, then analyzed using interpretative phenomenological analysis,<sup>22</sup> a method used to understand how people subjectively perceive and make sense of an experience.<sup>23</sup> In this method, researchers read the interviews several times and then annotate and code them in order to identify emerging themes. To ensure a rigorous "triangulation" process,<sup>22</sup>

three researchers (PDS, SBG, SM) analyzed each interview independently and searched for connections between these emerging themes. Reflexivity was discussed in team meetings, considering that some researchers were part of the hospital institution, and others originated from other teams and countries. Then, we compared the results between interviews to identify recurring themes and integrate new emerging elements. The team (PDS, SBG, SM, LB) then constructed a comprehensive description of participants' experiences. Themes were organized into overarching domains, and supported by specific quotes from the interviews.

## **Results**

One hundred and eighteen patients participated in MUCTUM from June 2016 to April 2022. Participants were aged 11 to 17 yo and came from the following areas: Western Africa (Mali, Ivory Coast, Guinea, Senegal), Central Africa (Nigeria, Congo, Congo Kinshasa, Somalia), Northern Africa (Morocco, Algeria, Tunisia), Asia (Afghanistan, Pakistan, Bangladesh), and Europe (Albania). Most participants suffered from anxiety, depressive, or post-traumatic disorders, with a few experiencing psychotic disorders and addictive disorders. Sixteen interviews were conducted from April 2021 to April 2022, ranging from 20 minutes to one hour. Participants' characteristics are described in **Table 1**. Analysis revealed that participants described strangeness and loneliness in relation to psychiatric symptoms, often feeling misunderstood before participating in MUCTUM. Several youth experienced triple stigmatization: of being UM, of suffering from psychotrauma, and of being mental health patients. Some reported feeling suspicious of care providers, due to negative cultural representations of mental health care or limited background knowledge of mental illness. As therapeutic alliance built up, participants felt increasingly helped by the consultations. They no longer experienced suspicion towards care providers, but rather trust. We identified three themes that reflect how UM feel supported, hoping to further improve caregivers' interventions for UM: (1) A safe space for unaccompanied minors; (2) Helpful interventions during therapy; and (3) Narrating one's story can "set us free" if guided carefully by care providers. Themes and subthemes are summarized in **Table 2**.

**Table 1. Sociodemographic characteristics of participants**

	Age at interview	Gender	Disorder	Birth country	Mother tongue	Duration of care (months)
n°1	17	♂	PTSD	Guinea	Susu	> 12
n°2	18	♀	eating disorder unspecified, depression, PTSD, post-traumatic amnesia	Somalia	Somali	> 12
n°3	18	♂	PTSD	Ivory Coast	Dyula	> 12
n°4	17	♂	PTSD, suicidality	Burkina Faso	Mooré	> 12
n°5	22	♀	PTSD, depression	Ivory Coast	French	> 12
n°6	17	♂	depression, suicidality	Mali	Soninke	< 6
n°7	20	♂	depression, social withdrawal	Guinea	Fula	> 12
n°8	17	♂	PTSD, depression	Cameroun	English, French, (Banyang, Pidgin, Sawa)	6
n°9	18	♂	depression & anxiety disorder	Mali	Soninke, (Bambara)	> 12
n°10	19	♀	externalizing disorder, PTSD	Nigeria	Urhobo, Pidgin, English, (Edo)	> 12
n°11	17	♂	psychotic depression, psychosomatic symptoms, (drepanocytosis)	Guinea	Jakhanke	< 12
n°12	16	♀	PTSD	Congo Kinshasa	Lingala	6 to 12
n°13	17	♂	anxiety disorder, dissociative disorder	Congo Kinshasa	Lingala	< 6
n°14	16	♀	PTSD, depression	Ivory Coast	Koroka, (Bambara, Dyula)	< 6
n°15	18	♀	depression, PTSD	Nigeria	Pidgin	> 12
n°16	17	♂	schizophrenic disorder	Guinea	Fula	< 6

Interpreters took part in interviews for participants n° 1, 3, 11, 16.

\*PTSD: Post Traumatic Stress Disorder

**Table 2. Themes and subthemes**

<b>A safe space for unaccompanied minors</b>	<b>a. A secure therapeutic framework</b> <b>b. The interpreter prevents misunderstandings and is a reassuring link with the native country</b> <b>c. A support to caseworker-youth relationship</b>
<b>Helpful interventions during MUCTUM therapy</b>	<b>a. Behavioral guidance promotes feelings of safety, self-confidence, and self-care practices</b> <b>b. Care providers facilitate links with the other institutions</b> <b>c. The work on family issues</b> <b>d. Cultural focus enables traditional care implementation</b> <b>e. Help with medications</b>
<b>Narrating one's story can "set us free" if carefully guided by care providers</b>	<b>a. Unaccompanied minors valued a delayed, progressive, and fractionated narration</b> <b>b. Care providers provide active, participative and empathetic listening to narration</b> <b>c. Sharing one's story is "painful" but "sets us free"</b>

### **A safe space for unaccompanied minors**

**A secure therapeutic framework.** The perception that caregivers were compassionate, engaged in care, and steadily present despite repeated missed sessions was cited by participants as a major factor in building therapeutic alliance. Participants considered their care providers "trustful," "skilled," "deeply caring," "generous," knowledgeable on their culture, and always providing "thorough explanations."

*" I can have problems in my life and I call Mrs. X on her number. It's really... I don't know about the others, but for me, it's not only a follow-up at the hospital, it's really a follow-up that was really very thorough (...) I improved a lot of things, like anger. I, I worked with that with Dr. Y... anger and everything.... It was something that I couldn't handle... It allowed me to... really deal with some of the things about myself that I didn't like..."*

According to UM, care providers offered much-needed guidance, giving advice and helping to find concrete solutions to daily life problems. They were perceived as role models, and even compared to a parent by some participants, "like a mother." Several participants reported having the personal phone

numbers of care providers (which is unusual in France) in case of crisis: “I could call or send a message (...) and that's what helped me even more, that made things easier for me.” All participants stressed that feeling welcomed at the first session had been essential: “The first time I came, it was great, I felt at ease just like at home.” Laughter was a notable event during the first meeting: “The first day, I was with my caseworker. It worked out well. [Care providers] had a good laugh with me too.” According to participants, consistency of care increased adherence, even despite some missed appointments. Said one participant, “Only God knows how many times I didn’t come,” with continuation of MUCTUM contrasting sharply with previous care that canceled follow-ups after only two missed sessions. Care providers became secure references during transfer of care, sharing “knowledge” about participants with new care providers who “don’t know how to handle [them] yet.” Nevertheless, some participants mentioned that the presence of four adults – two care providers, one caseworker and one interpreter – led them to feel “afraid” or “lost” at the beginning. Despite being overwhelming, the presence of several adults was overall seen as helpful to discuss a variety of opinions.

*“At first, I thought it was too much. I said to myself: there are too many people. But then I realized that when there are several people, we talk more. When there are several people, we discuss more, everyone gives their opinion. That's good. That's really good. I think that... Just at the beginning... I thought it was too much, but then I saw that it's better, when there are several people, each one speaks. They also, they talked a little bit about themselves. That's good.”*

### **The interpreter prevents misunderstandings and is a reassuring link with the native country.**

Participants perceived interpreters as instrumental in achieving full understanding of their identity, origins, language, and culture. Interpreters prevented possible misunderstandings (“so that I don't understand the opposite meaning”) and helped overcome language barriers.

*“With them, I was not alone, we were several. In addition, there was someone who spoke..., who interpreted, who was there, who knows me well, who knows where I come from. He knows the place, he knows my culture and everything.”*



Participants also valued interpreters' ability to help them articulate difficult subjects to the care providers.

*"I can explain to him what I have. I speak French but I don't really speak, there are things I don't know in French. With him, I can explain and he can understand me. I don't know how to tell you. (...) Often, when I spoke with him in my language, when I explain it to him, the explanation he gives... If it had been me, it would not be the same explanation. He knows the French language well. He explains well, in fact. He explains well compared to me and I wouldn't have explained well like him."*

For many, interpreters illustrated a bond with the native country, especially for UM who had not seen "anyone from the same country" since arriving in the host country.

*"I am of Somalian origin and I am in France since I was little and also when I arrived I did not see Somalian people. So when I see the interpreter every time here it was a pleasure to see a person from the same country as me (...) I felt sometimes that I spoke the same language and all that sometimes I asked questions about my country because I was little when I left my country (...) [the interpreter spoke] about the cultures of the villages, all that, all that, all the things, the food to eat"*

**A support to caseworker-youth relationship.** Some participants identified caseworkers as a reassuring support during sessions.

*"In fact, at the consultation when I go there, when they send me to the consultation, but sometimes when I arrive at the consultation, when we speak, I don't really like it, so I let my caseworker talk, as I really trust her, when we speak. After that, that's when I can talk."*

However, for some participants, the caseworker's continuous presence was perceived as intrusive and created a disincentive to talk, especially about very "personal" migratory life events. Some participants criticized the framework as too rigid, preferring to be "asked" if they consented to the caseworker's presence during therapy.

## **Helpful interventions during MUCTUM therapy**

Participants identified several helpful interventions during their follow-up.

### **Behavioral guidance promotes feelings of safety, self-confidence, and self-care practices.**

Participants valued education on coping skills and appropriate behaviors, especially during conflicts.

*"I am someone, I get very, very angry. Even sometimes when I speak, I get angry very, very quickly. So Mrs. Y taught me and I'm learning to breathe and not to get angry very quickly. If someone comes to get me, I will try to speak calmly to these people, so as not to be very aggressive. (...) Once she finds that the situation is very hard, she tells me that I take a breath, I drink a glass of water, that it calms me down and then I speak again. Sometimes when I'm upset or sad, even when I'm at home, I take a drink of water and my throat feels better."*

Skills that participants cited included emotional regulation, relaxation methods (e.g. breathing exercises, drinking a glass of water), planning (e.g. writing to-do lists in a notebook), and reflection (e.g. "practicing speech in front of [a] mirror"). Participants who had experienced violence and detention also explained how the care providers' explanations about security in France increased their feeling of safety:

*"It didn't really go away but I evolved a lot on it because before, it was due to everything I had been through, I had the feeling that I was going to be found, no matter what. So that's a little bit of what fueled that feeling too... But then I was made to understand that this is France and all... I was reassured a lot by Mrs X and Dr. Y too and uh I started to let go a little bit, they made me understand that I wasn't going to be attacked overnight in the street... Or kidnapped and everything... So that kind of... calmed me down a bit..."*

One participant explained that she continues to apply these negative affect regulation techniques now that she is a mother, which increases her self-confidence. "I worked [on] self-confidence a lot (...) and it is going very well".

**Care providers facilitate links with the other institutions caring for UM**, particularly social workers, who facilitate support for the youth at Children's Foster Home and school. Although some participants initially expressed displeasure at the presence of caseworkers in therapeutic sessions, most

participants said that inclusion of their caseworker in MUCTUM unlocked communication and improved the relationship with the caseworker.

*"I was the one who was really struggling and uh it was really really um... The follow-up that allowed us to tighten up.... Strengthening the ties, no but... Allowed me to have... uh... a discussion with [my caseworker] because having a discussion with her was not possible..."*

*Researcher : Yes.*

*Participant : We couldn't understand each other at all.*

*Researcher : Yes.*

*Participant : Because here I was really saying everything I wanted to say and who I really was... [care providers] had the ability to transmit that to another person, so that the person could understand me too...*

*Researcher : Yes.*

*Participant : So uh, [my caseworker] had to go through them to understand how I functioned and me too how she functioned and sometimes we had big meetings where there were people and uh... It was partly thanks to them that I was able to establish a link with my caseworker..."*

For others, MUCTUM provided a place to air discontents about their caseworkers, such as daily conflicts or misunderstandings. Some UM "felt bad" at the Children's Foster Home, and shared that MUCTUM allowed them to express this opinion. Participants identified that the care providers could help the caseworkers learn how to navigate certain situations more effectively, such as one participant experiencing social withdrawal or mutism:

*"Basically, you know as I said, basically, I didn't talk to anybody. So everybody was like, how do I talk to this individual? (...) So it was complicated for them... And in the end uh... (...) So, since there are certain things that I don't want to tell them about. So I invited them to come and participate in my sessions. That way, they will hear certain things. So, when we go back [home], [if] there are certain things that they don't (...) understand or that kind of thing, they call me, we talk about it, they ask me questions. And I answer, if I feel it... I answer. And so with that, it allows them to know how (...) to talk to me, how, how to handle the situation with me."*

In another example, one participant's need for privacy due to his traumatic history was acknowledged, and he obtained access to an individual room. In addition to collaborating with the social workers, care providers use a problem solving approach to address social, educational and legal problems. One participant reported how care providers supported her to pursue her academic studies and advocated for her with social services. Another reported that he felt supported for minority recognition administrative procedures with his lawyer, to whom he "did not say everything" previously because of fear and uncertainty.

**Family issues were often discussed during therapy**, such as the violent loss of parents, or the family relational difficulties that had led the UM to exile.

*"There were problems with the family. My mother, who was not present, left us long ago. I was with my aunt and her children. Often it was not going well. That's why I left there. There is all that, we talked about all that too, with them."*

In particular, participants valued phone calls and advice from the care team to family back home. In the case of one participant who had previously been sending money home due to being a victim of prostitution, care providers called the participant's mother to explain that her daughter, now in school with no income, could no longer send money back home:

*"I told all my stories to Mrs. X. In any case, she found some words. She called my mother to explain something to her. She made it clear that I don't work here, that I'm studying, that I won't have enough money, as much as she asks, that I won't be able to finance everything. So my mother, I don't know, but she has trouble understanding, my mother. She had a hard time."*

This communication induced a change in parental expectations, which "relieves more and more" for adolescents seeking reassurance that it is okay to refuse to send money to over-demanding family members. For another participant, interpreters facilitated a conversation with the participant's mother back in Somalia in order to restore family links, relationships, and childhood memories, which had been erased because of traumatic amnesia: "All my culture (...), when I was a child, lullabies, all this." For this participant, finding her mother was a "huge relief" and allowed this adolescent to "reconnect to

reality.” Now, the ability to call her mother frequently has “changed” and “energized” the participant: “It gave [me a] smile, me who was always sad.”

**Cultural focus enables traditional care implementation.** Cultural etiology and treatment were acknowledged and employed as needed, as cultural etiologies had variable importance for participants across the sample. Most participants did have representations of their conditions in their native culture (e.g. *kénu* in Soninke language, a certain conception of worry, or *undusu*, a “heart discomfort” in Malenke language), or explanations for certain phenomena (e.g. *djodjo*, witchcraft in Nigeria) and their cures. Some had no cultural hypothesis because they had left their country too young and their only solution was to “talk to my parents, and they will take care of me.” Other participants knew traditional etiological explanations, such as possession by spirits, like djinns, but associated djinns with problems more severe than their own. Participants also described various traditional treatments, specific to their home countries, including herbal treatments, massages, reading the Bible and listening to music, reading, and alms (“I buy stuff and give to the poor, give to people, and I ask God to protect me”). Some participants reported that their families in the native country recommended these traditional treatments, which they completed in France or their native country with the support of their MUCTUM care providers, such as prayers, alms, and sacrifices.

*"I had a dream about an old man (...) I had to get out the alms and I managed to call my mother to do that alms and since then it's been fine."*

**Help with medications.** Participants mentioned the value of medications, which reportedly helped with anxiety and sleep problems, but did not elaborate further on this topic.

*"Before... I was awake... every hour... I tried to sleep at night but I couldn't sleep... I had nightmares even if the door is open. I got out at night like people who walk at night, I sleep but I got out at the beginning. As I spoke to the psychologist and the psychiatrist, it stopped, I took medicine to sleep."*

*Researcher : Okay*

*Participant: And that stopped and even if I have a bad memory, a nightmare, well I still sleep but before I didn't sleep and all that. "*



## **Narrating one's story can "set us free" if carefully guided by care providers**

**UM valued a delayed, progressive, and fractionated narration.** Several participants said that the narration of their story at a slow pace was important, once a relationship of trust had been established with care providers. The narration was described as progressive, fractionated, prudent and non-forced:

*"It was a little bit each session. Just a bit, a bit... and then the whole thing and that's it. It wasn't like 'you have to tell us what you've been through right away.'"*

Participants appreciated the care providers' attention to preventing participants from sharing "too much" at once:

*"If we manage to empty ourselves of this, in fact we empty our heads. When I was able to clear my past with Mrs. X, she found solutions, words and things that could calm me down. (...) They know their work well and they know very well that when it goes too far, they also know how to stop the person when it goes too far. So I like that."*

Consequently, narrating one's history was not perceived as obligatory, and in fact some participants recalled relief at being explicitly asked not to talk about their story during early stages of therapy, because it was too painful.

*"Participant: As I said earlier, I'm not someone who likes to re-explain that part.*

*Researcher: Yes*

*Participant: But afterwards, it was really a moment when you had to talk.*

*Researcher: Yes.*

*Participant: It was really. They gave me time, they let me... I think it took a year and a half before... That we really got into it. We only talked about myself, my fears, my mother. And then we really went through the process where ... well I had to explain my story to them and that was it..."*

Narration encompassed both positive and negative life events: "I talked about my memories, times that went well and times that didn't go well, too." Some UM, on the contrary, did not narrate adverse life events: "I didn't tell my story to them." Narration was at times difficult for participants whose memories remained mostly "images" rather than easily-verbalized stories.

**Care providers provide active, participative and empathetic listening to narration.** Although this would seem self-evident for most practitioners, participants frequently and independently volunteered these reflections on providers' attitudes during narration of traumatic events, making it a notable theme in UM's experiences. Care providers were described as empathetic and non-judgmental, which contributed to trust and openness. Participants described how narration involved rephrasing by care providers, creating active, participative, and empathetic listening by care providers: "It was really like, 'I experience the story with you. It helps you to let it go.'" Care providers with knowledge of the "sea crossing" helped participants feel understood, as did using "images" when they talked.

*"Participant: It was very, very, very hard. Uh to say again what I... I had experienced, uh... You had to respect... and especially that they, when you explained, they illustrated for you.*

*Researcher: That is to say?*

*Participant: In itself... they take examples from you or do as if I tell them, for example, I crossed the sea: they tell you: by boat, the sea? Basically, to make you really live the thing, but in an intense way so that you can free yourself once and for all, and I think it was not bad for me anyway...*

*Researcher: Yes...*

*Participant: Because when I said uh when I took the example of Italy with the prostitution, really it was illustrated to me... And that was really what I wanted to say. So I was led to say what I had inside me without forcing myself. For example, a person can't understand your past, he's not in your shoes, but in fact, he tries to put himself in your shoes and all that, it feels good."*

Care providers helped UM stop feeling guilty and provided explanations that helped participants "talk more openly." Said one participant, "When I would say that when I was in Italy, I was prostituting, they would say, 'yes, we know you were forced. How did this happen to you?'".

**Sharing one's story is "painful" but "sets us free."** Several participants mentioned a feeling of "liberation" in relation to the therapy, particularly through the ability to "talk."

*"That's the hardest part. But once you get it all out, you feel good about your body. Plus, we open up to people and they give us ideas, advice on how to be able to deal with our past."*

Sharing one's story was experienced as "painful" ("it makes me sad," brings back "weird memories") but provided relief and allowed care providers to find solutions. "It feels good to talk about the things that are in your heart. When you've told someone, it's like everything has gone from your heart." Narrating one's story, though painful, reduced participants' feeling of pain and loneliness.

*"It hurt and at the same time, when I was talking, that's when I was able to work on it. When I was able to talk to people where at the same time it relieves my heart and it relieves me in my head."*

It was often the first time they shared what they had endured with someone. "That way, at least someone knows."

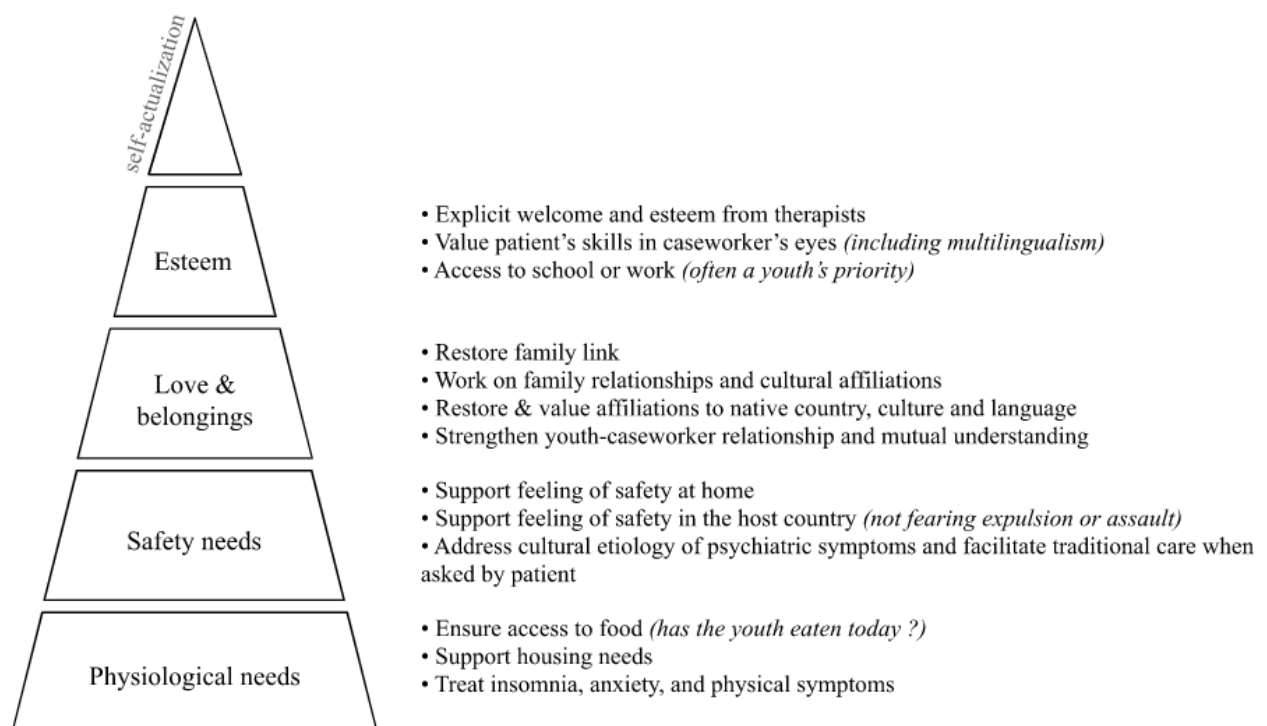
## **Discussion**

In this qualitative study of semi-structured interviews of UM participating in MUCTUM (Multimodal Co-Therapy for Unaccompanied Minors), we explored participants' experiences of this therapeutic approach : how UM experience mental health problems, what contributes to creating a safe place, what interventions are helpful during therapy, and UMs' experience of the narrative approach supported by care providers.

An important finding is the importance of implementing interventions successively within this multimodal therapy, i.e. the narration of trauma occurs after other interventions. In this sense, MUCTUM follows the fundamental teaching of Maslow's hierarchy of basic needs.<sup>24</sup> Maslow's seminal theory on the hierarchy of human needs, motivations and goals reminds care providers to address their young patients' basic needs before focusing on elaborate therapy goals. As an example, a UM who arrives at therapy after fasting all day will be unable to benefit from cutting-edge trauma-focused therapy if care providers do not feed them first. We present an illustration of the hierarchy of actions for UM in **Figure 2**. This is not a rigid hierarchy, as some higher-level needs, such as self-esteem and respect from others, can be supported quickly, restoring a sense of security for UM who have lost

confidence in themselves or others. If these principles may appear obvious, they are not always followed in Western health care systems where professionals are encouraged to give their patients only limited time slots and thus rely increasingly on highly standardized interventions. Underrepresented minority groups such as UMs challenge the current expectation of a straightforward and time-limited trauma-focused therapy. In the remaining discussion, we explore how MUCTUM addresses the hierarchy of needs of UMs: creating a safe space, providing patient-centered therapy, solving concrete problems, improving communication with caseworkers, making use of *limited reparenting* in therapy, providing culturally appropriate care and focusing on narrativity of trauma when basic needs have been addressed. Working on family relationships and with families remains relevant, despite the apparent isolation of UMs.

**Figure 2. Addressing unaccompanied minors' needs hierarchically**



Fear of stigma, suspicion, misunderstandings and negative cultural representations of mental health problems cause denial of mental suffering and are a barrier to mental health care of adolescent refugees. These results are consistent with a qualitative Australian study among 85 refugees aged 13 to 17, in

which stigma and misbeliefs about psychiatric conditions were identified as barriers to mental health care.<sup>25</sup> Participants in Anstiss and Ziaian's study dissimulated disorders to preserve their social status and marriage opportunities. Suspicion towards mental health care has also been found in a UK study among 15 UM, mostly boys from Afghanistan.<sup>26</sup> The study's title, "This doctor, I not trust him, I'm not safe," shows how trust in care providers is a prerequisite to experience a sense of safety, which is consistent with the results we described in MUCTUM therapy. The therapeutic alliance then allows UM adolescents to welcome explanatory hypotheses, both from the care providers in their host country and from their families back in their country of origin. This process allows them to make sense of their suffering and to accept treatment.

A warm and reliable setting, including care providers' long-standing commitment despite missed appointments, is a key ingredient for safety and trust, especially for UM who feel lonely and misunderstood. Other studies describe how to create spaces that allow UM to feel comfortable and valued, to speak openly, and to recover a sense of self.<sup>27,28</sup> Kohli explores the concept of *safety* for asylum-seeking children: predictable patterns in daily rhythm, going to school, receiving medical care and "finding trust-worthy, reliable and companionable people, adults and peers."<sup>29</sup> Similarly, creating a safe place for UM is central in MUCTUM.

Patient-centered therapy is a relevant approach for UM, as suggested by our study, because UM have very heterogeneous profiles, and treatment should therefore be based on their unique experience and social situation. This is consistent with Van Es et al.'s study, which advocates for flexibility in treatment approaches for UM.<sup>14</sup> Similarly, MUCTUM provides UMs with a unique program to address and prioritize various problems according to a hierarchy of needs.

Solving concrete problems, e.g. housing, school or medical needs, is essential because it shows UM that care providers understand their priorities. Our participants perceived this problem-solving approach as a sign of their care providers' competence, leading to increased trust and therapeutic alliance. Other authors highlighted the importance of day-to-day stressors such as missing one's family, difficulties accessing education, homelessness, sleeping or somatic problems.<sup>12,14</sup> Together, these findings suggest



that addressing physical or social concerns for migrants can be an important first step to their mental health care, in part by initiating a bond with providers.<sup>30,31</sup>

Supporting communication with social workers and foster care providers appeared helpful for this study's participants. Alto et al. state that nurturing UMs' foster family environments is central, as enduring conflicts can exacerbate adolescents' symptoms.<sup>32</sup> The type of placement may also influence UM's prognosis.<sup>33</sup> Living in foster care is sometimes a protective factor, possibly due to higher level of social support, safety and stability within this setting.<sup>34</sup> Even if complex trauma explains some of the inconsistencies of refugees narratives,<sup>35</sup> difficulties in accessing UM's narrative can raise suspicion of lies and hinder care providers' and caseworkers' relationships with UM.<sup>36</sup> Additionally, some adolescents cannot share their personal story for various reasons including fear of insecurity, reprisal, sorcery, or severe trauma. MUCTUM therapy invites caseworkers to learn from UMs' perspectives by providing them with psychological and cultural skills relevant to the UM. In return, caseworkers can inform care providers on social and educational aspects that improve the team's overall comprehension of UM's experience and mental health.

Limited reparenting. Participants reported that they benefited from the reliability of care providers who appeared as secure figures, providing emotional and behavioral guidance. This finding suggests that *limited reparenting* may be a useful component of psychotherapy for UM. Arguably, UMs do not have their core emotional and educational needs met, as they do not have caregivers in the host country. Schema psychotherapy argues that emotional deprivation has three components: deprivation of nurturance (absence of attention, affection, warmth, companionship), deprivation of empathy (absence of listening, understanding, mutual sharing of feelings from others), deprivation of protection (absence of guidance and direction from others)<sup>37</sup>. In the case of UMs, *limited reparenting* by a care provider might partially compensate for this deprivation, provided that appropriate professional boundaries are maintained. According to our participants' experience, creating "safety, stability, and acceptance" may require care providers to consider sharing their personal phone numbers with patients in case of crisis.<sup>38</sup>

Culturally appropriate care is central in MUCTUM, with interpreters who double as cultural mediators. This is consistent with other recent studies, which emphasize the importance of native language and cultural explanation across native and host countries' cultures, for the young patients and the professionals who care for them.<sup>14,32</sup> Transcultural psychotherapy is an essential component of MUCTUM, highlighting UMs' skills acquired in native countries, cultural affiliations to one's host country, culturally meaningful symptoms, and traditional care if valued by the patient.<sup>39</sup> Transcultural psychotherapy for children and adolescents is currently being assessed with randomized controlled trials.<sup>40</sup> Our results show that UM can give great importance to talking therapy, as proposed in MUCTUM. Although some authors suggest that psychiatric intervention may be deferred until language level of migrant patients has improved,<sup>26,41</sup> we believe that talk therapy can be implemented as soon as an interpreter allows the patient to talk in his/her native language, and as soon as basic needs are provided.

Sharing trauma experiences through narrative can have beneficial effects on health and well-being<sup>42</sup>. In our exploration of how and when trauma should be addressed for UMs, our participants explain that narration of trauma should occur only after several steps of psychotherapy (building trust, concrete problem-solving). These findings suggest that a primarily trauma-focused therapy, as implemented by other programs,<sup>14</sup> may be suboptimal for UMs. We argue that when UMs first access care, they are too fragile and trauma symptoms too acute to enable safe and beneficial sharing. Participants in this study felt relieved by focusing on their present (current stressors) and their future (envisioning goals, understanding social, school and administrative procedures of the host countries), rather than traumatic past. Interestingly, this relief in focusing on the present is also experienced by international adoptees, who sometimes prefer to focus on their present life rather than thinking about their country of origin or their biological family.<sup>43</sup> When talking about their past for the first time, participants in our study recalled highlighting positive memories (e.g. important family figures, cultural affiliations to host country, skills acquired in the host country). We argue that addressing present stressors and needs, future expectations, and practical problems are a prerequisite to trauma therapy. Similarly, in their study assessing a primarily trauma-focused therapy for UMs, van Es et al. concluded that some therapies

deviated from protocol to address current stressors (e.g. worries about family, school and housing) and current problems (asylum status, recent bereavement), fulfill psychoeducational needs, build trust, lay down a lifeline, and provide translation.<sup>14</sup> Our participants particularly appreciated caregivers' involvement, participative narration and rephrasing. Such psychotherapy techniques appear promising in the specific population of UM, and may require further standardization and assessment.

Working with families is a valuable aspect of UM's experience of MUCTUM. While UMs are perceived as isolated in the host country, they are often burdened by various family problems, fears, and requests, or traumatized by a complete separation from their families or the loss of relatives. Our participants reported that care providers' calls to their relatives to support and improve their relationship contributed greatly to their well-being.

Limitations. Our study possesses several strengths and limitations. The qualitative design allows in-depth analysis of participants' unique experiences, which helps refine a patient-centered and flexible therapy for the culturally and psychologically heterogeneous population of UMs. Nonetheless, our participants faced challenges that impaired their ability to express themselves, resulting in fragmented answers that occasionally necessitated rephrasing as written text instead of direct quotations: Our participants were young people, were non-native speakers (some of them wanted to speak French despite the presence of an interpreter), had psychotrauma, and often had limited educational attainment. These barriers to fluid communication raise the question of how to most accurately represent the perspectives of populations who may produce disjointed discourse within current qualitative research methods. Additionally, this study does not assess MUCTUM's efficacy. This objective could be addressed with a randomized, comparative, patient-goal-centered quantitative study, designed for a small population (i.e. using Bayesian statistics). Until then, the results of this qualitative study cannot be generalized. Another limitation is that no Asian UM consented to participate in the study, as most of them stated that they were afraid of speaking of bad memories. Future studies could determine more effective ways of recruiting Asian participants. Finally, some interviews were conducted within the hospital. Participants may not have dared to disclose negative opinions of MUCTUM in this setting.

## Conclusion

Multi-modal Co-Therapy for Unaccompanied Minors (MUCTUM) aims to provide a pluralist approach in which care providers address biological, transcultural, institutional and narrative approaches. Our qualitative study analyzes the experiences of UM participating in this program, with main findings highlighted in **Table 3**. We identify possible strategies to address UMs' needs according to their own priorities, including creating a safe place, providing a patient-centered therapy, addressing concrete problems, improving relations with caseworkers, making use of *limited reparenting* in therapy, providing culturally appropriate care, and supporting family relationships. Inquiring about traumatic events may be beneficial only after these needs have been addressed.

**Table 3. Highlights : multi-modal co-therapy for unaccompanied minors**

- Commitment and reliability of care providers despite missed appointments helps build trust.
- Care providers address unaccompanied minor's needs hierarchically (e.g. housing first)
- An interpreter in native language is central for translation and cultural mediation
- Supporting the relationship with the family is experienced as helpful (e.g. through phone calls)
- Pharmacological treatment, and addressing social factors are perceived as helpful.
- Therapy focuses on trauma once primary needs have been addressed. The process may take months.
- Trauma narration is delayed, prudent, non-forced, and fragmented. If guided carefully, trauma narration is perceived as "freeing" by unaccompanied minors.

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## **Declarations**

**Ethics approval and consent to participate** : This study has been approved by the Ethics Committee of Paris University (CEEI/IRB n° 00012021-57).

**Consent for publication** : Oral and written consent were provided.

**Availability of data and materials** : The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

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## 6. Formation: compétences pluralistes

Il serait utile d'établir un modèle de programme de formation sur les compétences pluralistes de base. Alors que les approches biologiques sont reconnues en tant que psychiatrie standard, nous pensons que les programmes de formation des internes devraient également inclure la psychiatrie sociale, ainsi qu'une réflexion sur la manière d'articuler psychiatries biologique et sociale dans la pratique clinique.

Des formations aux approches sociales sont dispensées dans plusieurs universités, notamment des formations aux compétences (trans)culturelles et les compétences structurelles (Hansen et al., 2018 ; Ogrizek et al., 2022). La faculté de médecine de McGill, au Québec, offre une formation aux bases des sciences sociales (Kirmayer et al., 2008). Les compétences culturelles comprennent la sensibilisation à l'impact de la propre identité ethnoculturelle du clinicien sur les patients, la reconnaissance de la langue et du contexte culturel des groupes culturels rencontrés dans la pratique clinique et leurs interactions avec les problèmes de santé mentale et de traitement, les compétences pour travailler avec des groupes spécifiques, et le développement d'organisations ou systèmes capables d'offrir une équité d'accès de soins aux diverses populations (Kirmayer et al., 2021). A l'Université de New York, aux Etats-Unis, la formation aux compétences structurelles repose sur la capacité à identifier comment les conditions sociales, économiques et politiques produisent des inégalités en matière de santé, et peuvent façonner les symptômes et les maladies (Hansen et al., 2018 ; Metzl & Hansen, 2018). Les cliniciens se mobilisent alors pour corriger les inégalités dans les interactions clinicien-patient et dans la vie des patients. En France, la compétence transculturelle, décrite selon l'approche de la psychiatrie transculturelle développée en France (Moro & de La Noë, 2004) est la capacité des cliniciens à fournir des soins culturellement appropriés, permettant la coexistence des représentations de la maladie et des soins des patients et des médecins. La formation en psychiatrie transculturelle à l'Université Paris Cité, en France, est intégrée dans le programme d'études initiales et de formation continue ; elle est aussi dispensée dans des programmes ultérieurs pour les médecins et soignants, et des programmes de médiation culturelle (Ogrizek et al., 2022 ; Radjack et al., 2020). La formation s'effectue également par le biais du compagnonnage durant les consultations, de cours magistraux, de jeux de rôles ou de l'utilisation de consultations assistées par des seniors.

La compétence pluraliste consisterait à avoir des compétences de base dans les approches biologiques et sociales, ce qui permettrait d'identifier l'approche la plus appropriée pour un patient donné, et d'orienter les patients vers des spécialistes si nécessaire. Par exemple, le fait d'avoir des compétences de base en psychiatrie transculturelle permet à un clinicien de rechercher l'existence d'une hypothèse étiologique culturelle de la maladie chez le patient, de s'interroger sur son importance pour le patient et sa famille, et sur la nécessité ou non d'une thérapie transculturelle spécialisée si elle est disponible. Un

autre aspect central est le dialogue, l'estime et le travail collaboratif entre les soignants de différentes approches pour parvenir à une approche pluraliste.

Suggestions pour la formation aux compétences pluralistes : (1) dispenser, dès le début des études médicales, une formation théorique pluraliste de base (introduction aux approches biologiques *et* sociales *et* leur articulation) ; (2) s'assurer que les internes effectuent des stages dans des services orientés vers la psychiatrie biologique et des services orientés vers la psychiatrie sociale ; (3) former les membres du corps enseignant des universités aux compétences cliniques et pédagogiques de base dans les deux approches, et promouvoir le dialogue entre les membres du corps enseignant de différents domaines ; (4) créer et enseigner des interventions qui articulent les approches biologiques et sociales ; (5) créer un programme d'études modèle sur les compétences pluralistes.

## 7. Discussion

Cette thèse traite de l'articulation des approches biologiques et sociales en psychiatrie de l'enfant et de l'adolescent à différents niveaux : description clinique, recherche, outils, interventions thérapeutiques. L'ensemble de ce manuscrit est présenté sous la forme d'une discussion des articles illustratifs que nous avons publiés. Nous ajoutons ci-après certains points de discussion qui n'ont pas été développés antérieurement.

Cette thèse a la force d'illustrer notre propos de manière pragmatique, par des exemples d'articles, outils, recherches et dispositifs qui donnent à voir cette articulation entre approches biologiques et sociales. Mais elle a par conséquent pour limite son aspect généraliste sur ce sujet. Des travaux plus approfondis dans chacun des domaines cités mériteraient d'être entrepris.

Au niveau de la recherche, si nous illustrons notre propos par l'exemple, en utilisant un outil transculturel et en proposant une recherche à l'intersection entre questions cognitives développementales et sociales (recherche ELAL), il n'en résulte pas moins qu'un exemple n'est pas suffisant. Il est nécessaire de construire davantage d'outils transculturels qui seraient utilisables pour la plupart des grands troubles psychiatriques, ainsi que des recherches qui fourniront des données scientifiques applicables dans différentes régions du monde (et pas seulement dans les populations majoritaires des pays à haut revenu). Les outils transculturels sont nécessaires tant du point de vue de la recherche que de la pratique clinique. Il existe d'autres pistes que celles développées dans cette thèse pour faire face aux décalages entre dimensions culturelles et biologiques, selon des axes de recherche très différents. Par exemple, davantage d'études avec des approches biologiques devraient être menées dans les pays non-occidentaux pour obtenir des résultats applicables dans ces contextes (et composer avec l'homogénéité populationnelle des designs d'étude). Une autre piste pour les perspectives transculturelles est de rendre comparables certaines données provenant de questionnaires et de formats de réponse disparates, comme les *méga-analyses* sur des données individuelles hétérogènes agrégées (Mansolf et al., 2020).

Concernant les dispositifs cliniques articulant plusieurs approches, notre travail sur la co-thérapie multimodale pour les mineurs non accompagnés n'a pu soulever que quelques questions au sein d'une problématique très large. Notre étude sur la co-thérapie multimodale pour les mineurs non accompagnés a en particulier présenté l'intérêt de soulever des points originaux et centraux qui offrent des perspectives utiles pour l'*articulation* de ces approches, en particulier l'enjeu de la séquence temporelle des interventions, en proposant une approche centrée sur le patient avec l'idée d'une intervention graduelle suivant une hiérarchie des besoins du patient, en accord avec la faisabilité et la disponibilité



des interventions. Il a laissé d'autres enjeux de côté, en particulier le sujet essentiel de la preuve d'efficacité.

Cela souligne la question du design des études ayant pour objectif de démontrer l'efficacité d'une intervention, quand celle-ci est basée sur des populations hétérogènes, de petits effectifs, et que les interventions elles-mêmes sont individualisées et donc peu reproductibles. Par exemple, pour étudier l'efficacité de la psychothérapie transculturelle dans la dépression en psychiatrie de l'enfant et de l'adolescent, un Programme Hospitalier de Recherche Clinique est en cours. Les populations sont culturellement hétérogènes. Le design d'étude suit le modèle d'un essai contrôlé randomisé utilisant des méthodes mixtes et une approche bayésienne (Lachal et al., 2020). Une autre méthode intéressante pour évaluer l'efficacité d'interventions sur des petits nombres de participants serait l'étude expérimentale en cas unique (*Single-Case Experimental Study*, ou *SCED*). Cette méthode permet de tester une intervention sur un petit nombre de patients (généralement un à trois), en utilisant des mesures répétées, l'introduction séquentielle (+/- aléatoire) d'une intervention et une analyse des données spécifique à la méthode, y compris une analyse visuelle et des statistiques spécifiques (Krasny-Pacini and Evans 2018).

Il est nécessaire d'explorer plus en profondeur les aspects épistémologiques et conceptuels des sujets liés à la frontière et à l'articulation entre approches biologiques et sociales, ce qui n'était pas le cœur de ce travail. Si nous avons évoqué des références liées aux approches complémentaristes, pluralistes et intégratives, le travail épistémologique et conceptuel est un champ à part entière, qui mérite des recherches spécifiques. Dans cette thèse, nous avons en particulier évoqué les définitions des termes pluralisme, complémentarisme et intégratif pour tenter de qualifier notre approche. Le choix du terme adéquat reste en discussion. Nous avons retenu le terme « pluralisme » en se référant à la définition philosophique de *pluralisme*, et au travail de Nasser Ghaemi. Concernant le concept de complémentarisme, George Devereux stipulait que les discours des deux méthodes (psychanalyse et anthropologie) doivent être séparés de manière inconditionnelle, alors que nous tentons dans cette thèse de les relier. D'autres chercheurs ont eu des difficultés similaires puisque nous avons trouvé des articles où plusieurs termes étaient utilisés simultanément, tels que « *pluralistic integrating transdisciplinary approach* ». De plus, la traduction en anglais de « complémentarisme » pose question. De manière intéressante, Devereux avait publié en anglais en utilisant dans le titre d'un ouvrage le terme « *Complementary Frame of Reference* » (Devereux, 1978). Cependant, nous avons préféré insister dans cette thèse sur la dimension de l'*articulation* des approches, afin de discuter la manière de les relier.

Promouvoir la mise en œuvre de soins pluralistes en psychiatrie nécessite de questionner son coût économique. Il existe des preuves de l'intérêt économique et social d'interventions spécifiques en psychiatrie de l'enfant et de l'adolescent (Skokauskas et al., 2018). Certaines études suggèrent que

proposer des soins transculturels spécialisés, en plus des approches standard, est rentable pour les systèmes de santé (Lachal et al., 2019).

Les questions éthiques pourraient être examinées sur la manière dont la qualité des soins devrait guider la promotion et le financement de la recherche - et pas seulement les facteurs économiques (Dakić, 2020; Dumit, 2018 ; Rutter & Stevenson, 2009). La promotion d'une recherche pluraliste, qui inclut les facteurs sociaux liés à la santé mentale, est une nécessité de justice et d'équité (par exemple, équité de qualité des soins pour les groupes minoritaires et les populations migrantes ; effets des discriminations sur la santé) (Moro & Radjack, 2022). Cette réflexion inclut la sélection de critères d'inclusion et d'exclusion justifiés sur le plan éthique (Dakić, 2020), et plus généralement des soins centrés sur le patient, sur ses besoins et sur le principe d'équité (Dakić, 2020). La promotion de ces approches implique une disponibilité des interventions pour les patients et les professionnels, dans différents pays et régions. Soutenir l'accès en ligne gratuit à divers instruments est un exemple de mesure simple pour assurer cette disponibilité.

Articuler les approches biologiques et sociales en psychiatrie de l'enfant et de l'adolescent dans la pratique clinique et la recherche est un défi pour le futur. En conclusion, nous présentons les principales propositions suivantes dans le **Tableau 2**.

**Tableau 2. Points forts : articuler les approches biologiques et sociales en psychiatrie de l'enfant et de l'adolescent**

<b>I</b>	Indiquer que l'objet de la recherche peut être abordé sous différents angles cliniques, de recherche et théoriques et expliquer celui choisi
<b>II</b>	Proposer des articles de synthèse qui articulent les connaissances biologiques et sociales
<b>III</b>	Concevoir des études biologiques qui tiennent compte des facteurs sociaux Concevoir des études sociales qui tiennent compte des facteurs biologiques
<b>IV</b>	Concevoir des outils transculturels
<b>V</b>	Construire des interventions thérapeutiques pluralistes, qui articulent les approches biologiques et sociales
<b>VI</b>	Développer des formations aux approches pluralistes

## 8. Conclusion

Dans cette thèse, nous avons proposé une réflexion sur l'articulation des approches biologiques et sociales en psychiatrie de l'enfant et de l'adolescent. Nous avons proposé plusieurs axes de réponse et les avons illustrés avec des recherches originales.

Indiquer dans un travail de recherche que l'objet de la recherche peut être abordé sous différents angles cliniques, de recherche et/ou théoriques et expliquer celui choisi pourrait être un préalable élémentaire.

Nous suggérons que soient publiés plus d'articles de synthèse qui rassemblent les connaissances biologiques et sociales. Nous illustrons ce point par l'écriture et la publication d'une revue de littérature rassemblant les données biologiques et culturelles disponibles dans la littérature médicale au sujet d'un syndrome psychiatrique, la lycanthropie clinique (**Articles 1,2, 3**).

Nous soutenons l'idée que les études biologiques devraient tenir compte des facteurs sociaux, et que les études sociales devraient tenir compte des facteurs biologiques. A titre d'illustration, l'étude ELAL dont nous avons publié un volet (**Article 4**) montre une recherche qui prend en compte d'une part le profil bilingue des enfants (aspects cognitifs) et d'autre part les facteurs sociaux (environnement et représentation des parents). Cette recherche sera davantage étayée par la publication prochaine de son volet quantitatif.

Nous défendons le besoin d'outils transculturels (questionnaires et échelles), qui peuvent constituer un point de liaison, au niveau clinique et de la recherche, entre approches biologiques et sociales. L'échelle ELAL, une échelle d'évaluation transculturelle des compétences langagières d'un enfant dans sa langue maternelle, constitue une illustration d'outil transculturel qui nous semble pertinent.

Nous explorons le besoin, selon nous, de construction d'interventions thérapeutiques qui articulent les approches biologiques et sociales. Nous illustrons ce point par l'étude d'un dispositif thérapeutique multimodal, le dispositif de *Co-Thérapie Multimodale pour les Mineurs Non Accompagnés*, dans lequel nous étudions l'expérience des mineurs non accompagnés d'un dispositif pluraliste et formulons des pistes pour la mise en œuvre d'une intervention pluraliste (**Article 5**).

Enfin, nous soulignons le besoin de formation des professionnels aux approches biologiques, aux approches sociales, ainsi qu'à la manière de les articuler.

Pour développer cette articulation des approches biologiques et sociales, il convient aussi de

promouvoir ce regard pluraliste sur la psychiatrie de l'enfant et de l'adolescent, ce que nous avons voulu faire en soumettant à la revue *Frontiers in Child and Adolescent Psychiatry* une synthèse de notre réflexion sous la forme d'un article de type « Perspective Article » : **Articulating biological and social approaches in child and adolescent psychiatry** (Article 6 en annexe, page 113).

Nous espérons que cette thèse et ces articles participeront à promouvoir les approches pluralistes et l'articulation des approches biologiques et sociales, en offrant notamment des propositions concrètes, dans le but de s'ajuster à la réalité complexe des patients et à l'impératif éthique de proposer des soins évalués, acceptables et efficaces au sein de populations hétérogènes.

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## **10. Annexes**

# **Annexe 1. Article 6. Articulating biological and social approaches in child and adolescent psychiatry**

## **Articulating biological and social approaches in child and adolescent psychiatry**

**Sélim Benjamin GUESSOUM, Laelia BENOIT, Isaiah THOMAS, Jasmina MALLET, Jordan SIBEONI, Cyril HANIN, Marie Rose MORO**

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Perspective

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## **Abstract**

Child and adolescent psychiatry has been based on numerous fields of research and theories, including neuroscience, physiology, psychology (developmental, psychodynamic, systemic, cognitive-behavioral, etc.), anthropology, sociology, and education sciences. Integrating transdisciplinary knowledge in multi-level models is an ongoing challenge for the future that is not immediately applicable in clinical practice and research. Articulating, i.e., to connect, to be jointed, (psycho)biological and (psycho)social approaches in child and adolescent psychiatry is a daily challenge for clinicians and researchers. Research is often limited to specific fields whereas real-life clinical practice needs a pluralistic approach. Research designs, tools, and clinical training need to provide knowledge applicable to the necessarily pluralistic daily clinical practice. This article provides some perspectives on how to articulate biological and social approaches, from research to clinical practice, and discusses the concept of pluralistic approaches, multimodal interventions, and how to provide articulated mental health care and training.

Suggestions to better articulate biological and social approaches are provided: (I) State that the research object can be approached from different theoretical, research and clinical angles and explain the one chosen; (II) Propose synthesis articles that articulate biological and social knowledge; (III) Design biological studies that take into account social factors, and design social studies that take into account biological factors; (IV) Design transcultural tools; (V) Build pluralistic interventions, i.e., therapeutic modalities and mental health care settings that articulate biological and social approaches; (VII) Develop training in pluralistic articulated care.

## **Keywords**

child and adolescent psychiatry, transcultural psychiatry, biological psychiatry, social psychiatry, pluralistic, integrative, complementary, research design

## Introduction

Child and adolescent psychiatry (CAP) aims to treat disorders of thinking, feeling, and/or behavior affecting children, adolescents, and their families. Articulating biological and social approaches is necessary to grapple with the complexities of patients and mental disorders. As examples of this tension between biological and social approaches, one can cite the three following: [1] Possession by spirits in an adolescent from a Islamic culture could be a culturally meaningful non-psychotic syndrome or a psychotic disorder or both could be interrelated with one another; such complexities can lead to misdiagnosis; [2] Anorexia nervosa has clear neurobiological correlates, including a strong genetic component, but family therapy, which focuses on environmental, familial, and social factors, is an evidence-based treatment (1–3); [3] Autism spectrum disorder has been progressively explained through in-depth knowledge at the genomic, molecular, cellular, and neural-circuit levels, yet interventions focus on improving interactions and communication between patients and their families(4,5). Further examples are detailed in **Table 1**.

— **Insert Table 1 around here** —

Child and adolescent psychiatry has been based on numerous fields of research and theories, including neuroscience, genetics, physiology, psychology (developmental, psychodynamic, systemic, cognitive-behavioral, etc.), anthropology, sociology, and education sciences. Over the past 70 years, we have witnessed the demise of “big” theories in CAP purporting to offer overarching explanations and in its place the development of specialized research fields that provide strategies for tackling particular questions (6). Various fields in CAP are evolving simultaneously, with distinct theories, concepts, representations, and interventions. In this article, we schematize the diversity of approaches into (psycho)biological approaches vs (psycho)social approaches. Biological approaches refer to the conception of psychiatry as a medical science based on biology, physiology and neuroscience. This perspective posits that biology grounds medical practice and that other sciences can contribute but cannot displace biology from its central role (7). Biological approaches have brought important changes to CAP, such as the vast body of research on the use of stimulants to treat ADHD (6). Nevertheless, social approaches, such as sociology and anthropology, are critical in CAP: These approaches are grounded in the concept that humans are fundamentally social beings, and that social factors are key determinants of health (8). Thus, in the context of CAP, the child is not only an individual and must be viewed within a larger familial, social, and cultural context (9).

Evidence-based medicine (EBM) has influenced research methods in the last few decades, promoting quantitative research, which tends to exclude cultural factors, and thus minority groups, in order to

obtain homogeneous study populations. Consequently, there is scarce transcultural data in CAP (10,11). This lack of research knowledge and the need for updated and integrative diagnostic and interventional models remains a challenge in the field. A pluralistic approach argues that multiple independent methods are necessary in the understanding and treatment of mental illness and that no single method is sufficient (12).

There are numerous obstacles that impede the implementation of a pluralistic approach in CAP: the difficulty of identifying and treating diseases in CAP; objects in CAP are multiple and heterogeneous (e.g., Kleinman's developments on the personal and social meanings disease, illness, and sickness (13,14)); the divide between biologically oriented child psychiatrists and other types of child psychiatrists (15); the lack of unifying theories and the pragmatic oversimplification for the sake of practice and training (16). Integrative transdisciplinary models in research are promising, but they are not immediately applicable to clinical practice (e.g., translational social neuroscience (17); cultural neuroscience (18); neurophenomenology (19)). In our opinion, significant gaps persist between biological and social approaches, and between theory, research, and clinical practice. The objective of this article is to provide practical perspectives on how to articulate (i.e., *to connect, to be jointed*) biological and social approaches in CAP.

### **Definitions: pluralistic articulated approach**

Biological and social approaches have not only different theories and concepts (self, disorders, emotions, etc.), but also different methodologies. Biological research is more often *quantitative* and *nomothetic*, i.e., it provides standardized, generalizable knowledge on disorders. Social research is often *qualitative* and *idiographic*, i.e., it provides *in-depth* knowledge on the experience of patients (20,21), though numerous nomothetic studies also exist in the social sciences. *Nomothetic* methods do not take into account the personal and subjective factors involved in patients' disorders. In contrast, *idiographic* methods, based on the patient and his or her particular features, can help identify the social experience of mental disorders.

We provide brief definitions of some important concepts in the supplementary materials, and we highlight three of them here: pluralistic, complementary and integrative. A pluralistic approach states that multiple independent methods are necessary in the understanding and treatment of mental illness and that no single method is sufficient (12). In pluralistic approaches, the conceptual differences are assumed to understand mental and brain phenomena (12). Care providers can combine actions from different fields and theories, wondering which ones are relevant in a given case (rather than applying a little of each for every disorder). Complementary frames of reference (*complémentarisme*) is a concept

historically based on George Devereux's French school of transcultural psychiatry: it argues for the necessary *non-simultaneous* use of several methods (at the time, anthropology and psychoanalysis) (22). Integrative psychiatry aims at providing a synthetic approach to the distinct psychiatry fields (21). In this article, we use the term *pluralistic approach* to refer to the use of multiple independent methods, articulated rationally and non-simultaneously but with possible overlap, in accordance with both evidence-based and patient-centered medicine.

There are essentially two options: [1] To assume a pluralistic approach with separated concepts and research methods, or [2] To build models whose theories encompass the traditionally separated fields. With the first option, one can study a single theme with two or more methods via distinct research protocols. For example, one can perform, on the one hand, biological studies on adolescent depression and, on the other hand, social research on this topic (23,24). The objects, methods, and theories would be distinct between these methods. As another example, within a single team, in adult psychiatry, we performed, on the one hand, a quantitative epidemiological study and, on the other hand, a qualitative psychological study on care providers' mental health during the COVID-19 pandemic (25,26). The second option, integrating typically separate fields, requires a wider and deeper theoretical foundation. Achieving this goal would be, in our opinion, the most ambitious and important transformation for the future of psychiatry (27). Like biological processes, social factors influence the brain's development and functioning. For example, children in situations of severe social isolation demonstrate abnormal brain development and language impairments (28). Proposing sociobiological models could constitute the future of CAP (29). Until then, clinicians and researchers still require perspectives to grapple with the coexistence of social and biological approaches.

### **Research: Pluralism and complementarity from clinical description to research**

The articulation of social and biological approaches should be carried out starting from the clinical description phase. Otherwise, if psychiatrists follow a standard descriptive criteriologic approach, only a part of the patients' experience—the objective, standardized, generalizable and observable aspects—will be reported and thus shape the research perspectives. Additionally, the expression of mental distress varies within populations and across cultures, depending on social and biological factors, and is also characterized by distinct cultural presentations that demand a social assessment by psychiatrists (e.g., *hikikomori* syndrome in adolescents (30)).

Collecting and synthesizing both sociocultural knowledge and neurobiological knowledge on a subject is not an obvious approach, but we argue that it should be more widely utilized. We applied this synthetic approach to study clinical lycanthropy, a syndrome in which patients have the delusional

belief that he or she is turning into a wolf (31,32). We conducted a systematic review of medical publications and linked together biological and cultural knowledge (33). The reader thus witnesses the clear necessity of both approaches: clinical lycanthropy is related to neuropsychiatric disorders, but it occurs in a particular environmental and cultural context. Consequently, we hope that any reader on this topic will have a representation of clinical lycanthropy that integrates both approaches. Next steps consist of offering multilevel perspectives that include the brain and its environment (27).

We offer the following suggestions: [I] All available sociocultural and biological data should be included in clinical descriptions and case reports. Psychiatrists should exhibit the same precision in describing both the biological (neurological) and social features of disease as early psychiatrists did in their meticulous clinical observations; [II] Biological studies should consider the social context, and social studies should consider the biological context; [III] Scientific syntheses (e.g., reviews) should gather both biological and social data.

### **Tools: Build tools that meet the needs of pluralism**

Pertinent validated tools (e.g., questionnaires and scales), designed for research or clinical practice, are keystones to articulating biological and social approaches. Instruments are scarce in CAP, and their use is complicated by the dynamic aspect of development and the necessary adaptation of instruments to the age and developmental stage of each patient. Standard rating scales can reflect a nomothetic representation of the measured variables, whereas transcultural validity includes an idiographic perspective.

The tools available to us shape research designs and clinicians' representations, notably by capturing some cultural forms of mental health experiences, while rendering others invisible. In standard evidence-based and nomothetic CAP approaches, there is a lack of culturally appropriate and transculturally valid instruments (34,35). Some Western-derived scales distort or miss some culturally specific dimensions of mental distress, inducing a form of *experience measure fallacy*, or an error in measuring the experience of patients by superimposing Western experiences of mental distress (as a parallel to Kleinman's *category fallacy*, referring the application of a nosological category developed for a particular cultural group to the members of another culture for whom it lacks coherence and validity has not been established) (36–38). A Western scale in adult psychiatry would miss a culturally meaningful form of dysphoria that the Afghan symptom checklist does capture: *jigar khun*, literally “liver blood,” is an extreme and persistent dysphoria that includes grief following interpersonal loss but that may also be a reaction to any deeply disappointing or painful experience (39).

As an example in CAP, several tools for autism spectrum disorder showed lower psychometric properties among immigrant minority groups, non-native speakers, and other cultural minorities from non-Western countries, attesting to a worldwide scarcity of validated and culturally attuned screening and diagnostic tools (40,41). For example, the Autism Diagnostic Interview-Revised (ADI-R) in a Spanish-speaking population in the U.S. showed lower sensitivity and specificity rates than in the original validation that included only native English speakers (42). The Spanish version of ADI-R may be less valid when the parent and child's Spanish language proficiencies differ; if the parent speaks mostly Spanish and the child speaks mostly English with peers and at school, the ADI-R verbal communication questions may be less valid.

The cultural formulation interview of DSM-5 includes interesting idiographic questions on cultural definitions of the problem, and some authors have suggested developing a supplementary module specifically for young children (43,44). More tools are needed to assess other factors such as interactional aspects within a particular cultural context. The matter is complicated further by the changes that inevitably occur in culture over time, resulting in the need for regular reassessments and revisions of these instruments.

Some researchers have designed culturally pertinent scales: Phan et al. designed an adult psychiatric scale that is derived from Vietnamese idioms and cultural understandings of psychiatric and emotional distress identified in Vietnamese literature and using ethnographic methods (37). Another option is to propose transcultural validations and adaptations of existing scales (e.g., cross-cultural validation of the Positive and Negative Syndrome Scale (45)). A third option is to intentionally develop tools, from their conception, to be applicable across cultures, such as: the PSYca, a tool designed to screen for psychological difficulties among children aged 6 to 36 months (46), and the ELAL scale, an instrument designed to assess language skills in any minority language and consequently better diagnose language disorders across various populations (47). Kohrt et al. propose criteria to evaluate the cross-cultural validity of CAP instruments, such as the incorporation of mention of local idioms employed, the structure of response sets, and comparisons with other measurable phenomena (47). Within a health justice framework, it is our ethical responsibility as child psychiatrists to develop tools that are adaptable to the needs of different patient populations.

### **Clinical practice: Provide pluralistic articulated interventions**

In clinical practice, it remains a challenge to implement this plurality of approaches and develop different narratives of a patient's condition that can coexist. Articulating pluralistic care in clinical practice can be promoted through the following axes: [I] train clinicians in pluralistic care; [II] ensure



that these interventions are accessible to patients; [III] develop competency in determining the temporal sequence of care: which intervention is prioritized and/or can facilitate other interventions (e.g., family intervention is sometimes necessary before a patient can accept medical treatment, or vice versa); [IV] encourage diverse care teams with psychiatrists trained in distinct approaches (for complex patients).

For example, the management of eating disorders requires a pluralistic approach as well as a transdisciplinary care team (48,49). Autism spectrum disorder is another example of a disorder that is explained with a biological approach, treated with interactional and behavioral treatments, and influenced by important cultural and social factors (50) (see **Table 1**). Some authors have proposed integrative frameworks that encompass developmental, multidimensional, eco-systemic, and multifactorial approaches and are associated with pluralistic interventions (51).

As an illustration of a pluralistic intervention, we carried out a study on a specific mental health care program for unaccompanied immigrant minors: Multimodal Co-Therapy for Unaccompanied Minors (MUCTUM) (Guessoum et al., *under review*). This monthly consultation brings together a standard biological approach (including pharmacological treatment), an institutional approach (aiming to improve caseworker-youth relationships and communication as well as solving stressful daily life problems), transcultural psychiatry (providing an interpreter who speaks the patient's native language and acts as a bond with the patient's native country, cultural affiliations, family, and culturally meaningful care), and a narrative approach (narration of the youth's story, immigration, and trauma). MUCTUM aims to provide a pluralistic approach through the use of two therapists with different backgrounds (a psychiatrist and a psychologist), further enriched by the participation of an interpreter and the youth's caseworker. MUCTUM is consistent with the idea that pluralism requires close collaboration among psychiatrists, psychologists, and social workers (12). In this study, we hypothesize that following a hierarchy of needs, through a patient-centered and problem-solving approach, could be one axis by which to articulate these interventions. We also hypothesize that a pluralistic approach could be provided through interventions in a single consultation with several care providers with both biological and cultural backgrounds. Implementation research for such approaches is much needed in CAP (52).

### **Training: pluralistic competency**

Suggestions for training in pluralistic competency: [I] Provide a basic pluralistic theoretical training (introduction to biological *and* social approaches *and* how to articulate them in clinical practice) early on in medical school; [II] Make sure residents complete internships in both biological psychiatry-oriented and social psychiatry-oriented services; [III] Train faculty members in basic clinical and

teaching skills for both approaches and promote dialogue among faculty members from different fields; [IV] Develop and teach interventions that articulate biological and social approaches; [V] Provide a model curriculum for pluralistic articulated training.

Training in social approaches is provided at several universities, such as (trans)cultural competency and structural competency (53,54). McGill University's medical school curriculum provides training grounded in basic social science perspectives (55). Cultural competency notably includes an awareness of the impact of the clinician's own ethnocultural identity on patients, knowledge of the language and cultural background of groups seen in clinical practice and their interactions with mental health issues and treatment, and skills for working with particular groups (56). Structural competency training relies on developing a capacity to identify how social, economic, and political conditions produce health inequalities and can shape symptoms and diseases (53,57). After identifying such factors, the clinician would then mobilize to address the inequities in the clinician-patient dynamic or in the patient's life. Transcultural competency developed in France (58), describes the ability of clinicians to provide culturally appropriate care, allowing the co-existence of medical and patients' cultural narratives and treatments. Training in transcultural psychiatry in Université Paris Cité in France is embedded in the early curriculum and provided in later programs for care providers and cultural mediation (54,59). Training also occurs through mentoring during consultations, lecture courses, role-playing, or use of senior resident-assisted consultations.

Pluralistic competency would call for basic skills in both biological and social approaches, which enables one to identify the most suitable approach for a given patient and refer patients to specialists when necessary, e.g., having basic skills in transcultural psychiatry allows any clinician to seek for a cultural etiology of the disease and evaluate its importance in the patient's and their family's narration of the disorder and the need for specialized transcultural therapy if available. Another central aspect is dialogue, self-esteem, and collaborative work among care providers from different disciplines to achieve a pluralistic approach, including multidisciplinary staff meetings.

## **Discussion**

This article discusses the articulation and implementation of a pluralistic approach. There is still a lack of appropriate tools, pluralistic syntheses, integrative knowledge, and training for professionals in these approaches. More biological studies should be conducted in non-Western countries to obtain results applicable in these settings and address the population homogeneity needed in many biological studies. Distinct avenues for cross-cultural perspectives allow for the comparison of data from disparate item

sets and response formats, such as mega-analyses of aggregated heterogeneous data from many individuals (60) .

Promoting the implementation of pluralistic care in psychiatry requires assessing its financial cost. Evidence exists for the economic and social value of specific interventions in CAP (61), e.g., proposing specialized transcultural care, in addition to standard approaches, may be cost-effective for health systems (62).

From an ethical standpoint, the driving force behind such research should be improving the quality of health care, not economic factors only (6,63,64). Promoting pluralistic research that includes social factors is necessary to provide just and equitable health care (65). This includes ethically justified exclusion criteria (63). Promoting such approaches requires that they be available and accessible to both patients and professionals, and supporting free online access to diverse tools may be a simple contribution.

Articulating biological and social approaches in CAP in clinical practice and research is an ongoing challenge. As a conclusion, we provide highlights in **Table 2**.

— **Insert Table 2 around here** —

## Tables

**Table 1. Examples**

### **A. An illustration via a common case of psychosis**

A 14-year-old boy from Morocco is diagnosed with schizophrenia characterized by a delusion of spirit possession (djinn); the family does not accept/support antipsychotic treatment.

<b>Biological approach</b>	<ul style="list-style-type: none"> <li>- Genetic, molecular, and neurologic impairments are found in schizophrenia (66)</li> <li>- Research on the specific etiology through biological and neurological testing (67)</li> <li>- Antipsychotic treatment (68)</li> </ul>
<b>Social approach</b>	<ul style="list-style-type: none"> <li>- Immigration is a risk factor for schizophrenia (69)</li> <li>- Possession by a djinn is a common cultural etiology (<i>i.e., cultural representation of the cause</i>) of positive symptoms (70)</li> <li>- Family and cultural representation and narration of the disease are central in the experience of disease and adherence to care (71,72)</li> </ul>
<b>Expectations of a pluralistic approach</b>	<ul style="list-style-type: none"> <li>- Addressing patient, family and cultural narration supports the therapeutic alliance, adherence to care, and collaboration with care providers, and ensures ethical care</li> <li>- A biological approach is necessary in schizophrenia but ineffective (because inapplicable) without family and patient adherence</li> </ul>

### **B. An illustration via autism spectrum disorder**

<b>Biological approach</b>	<ul style="list-style-type: none"> <li>- Knowledge of genomic, molecular, cellular and neural-circuit impairments (4)</li> <li>- Pharmacologic treatments are useful (e.g., melatonin levels are reduced in autism, and providing melatonin may improve sleep and daytime behavior (73–75))</li> </ul>
<b>Social approach</b>	<ul style="list-style-type: none"> <li>- Interventions focus on interactions and communication with patients and their families (5)</li> <li>- Cultural and social factors influence community beliefs and families' understandings of autism (50)</li> </ul>

<b>Expectations of a pluralistic approach</b>	<ul style="list-style-type: none"> <li>- Cultural and contextual adaptations are required and need to be studied to make interventions feasible, acceptable, and effective in non-Western countries, e.g., Sub-Saharan Africa (40)</li> <li>- The clinical management of autism, a biological disorder, is embedded in parent-child interactions, which vary across cultures (76)</li> </ul>
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**Table 2. Highlights: articulating biological and social approaches in child and adolescent psychiatry**

<b>I</b>	State that the research object can be approached from different clinical, research, and theoretical angles and explain the chosen approach and why.
<b>II</b>	Propose synthetic articles that articulate biological and social knowledge.
<b>III</b>	Design biological studies that consider social factors. Design social studies that consider biological factors.
<b>IV</b>	Design transcultural tools.
<b>V</b>	Develop pluralistic interventions that articulate biological and social approaches
<b>VI</b>	Develop training in pluralistic articulated care

### Supplementary materials: Brief definitions of some core concepts

**A theory** is an idea or set of ideas that is intended to explain facts or events.

**A biological approach** focuses on the biomedical dimension of mental health and is grounded in human biology and neuroscience.

**A social approach** focuses on the social and cultural dimensions of mental health and is grounded in the social sciences and the humanities.

**A pluralistic approach** states that multiple independent methods are necessary in the understanding and treatment of mental illness.

**An integrative approach** aims to provide a synthetic approach to the distinct fields within psychiatric research, diagnosis, and treatment.

**Complementary frames of reference** involves the obligatory but non-simultaneous use of several disciplines.

**Nomothetic** describes an object or method that enables one to establish repeatable and generalizable patterns, is concerned with general laws and theories, and is represented by constant relations between the observed phenomena.

**Idiographic** describes an object or method within social research that focuses on specific elements, individuals, events, entities, situations, documents, and works of art and culture and concentrates on what is particular to these.

**Multimodal** describes a combination of several interventions or treatments.

**A multidisciplinary approach** is based on the knowledge of different disciplines while respecting their delineations.

**An interdisciplinary approach** analyzes, synthesizes, and harmonizes the links between disciplines into a coordinated and cohesive whole.



**A transdisciplinary approach** integrates distinct fields of study and crosses their traditional boundaries.

**A categorical approach** establishes predefined diagnostic categories. Psychiatric diagnosis aims to identify the presence or absence of a psychiatric disorder in a patient and then to classify the patient's disorder into a diagnostic category according to pre-established criteria.

**A dimensional approach** is based on the conception of symptoms as a continuum between normal and pathological and as not being exclusive across diagnostic categories. Psychiatric diagnosis aims to evaluate the different dimensions of the patient's symptoms and to nuance them according to their intensity.

These definitions are a synthesis of the data found in this article's references and in dictionaries (12,22,77–80).

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## Annexe 2. Définitions de certains concepts fondamentaux

Une **théorie** est une idée ou un ensemble d'idées qui vise à expliquer des faits ou des événements.

L'**approche biologique** porte sur la dimension médico-biologique de la santé mentale et s'appuie sur les sciences biologiques et du cerveau.

L'**approche sociale** porte sur les dimensions sociales et culturelles de la santé mentale et s'appuie sur les sciences humaines et sociales.

L'**approche pluraliste** stipule que de multiples méthodes indépendantes sont nécessaires à la compréhension et au traitement des maladies mentales.

L'**approche intégrative** vise à fournir une approche synthétique des différents domaines et interventions de la psychiatrie.

L'**approche complémentariste** est une méthode consistant en l'utilisation obligatoire mais non simultanée de plusieurs disciplines.

**Nomothétique** qualifie un objet ou une méthode qui permet d'établir des données reproductibles et généralisables, relevant de lois et de théories générales, représentées par des relations constantes entre les phénomènes observés.

**Idiographique** qualifie une approche ou un type de recherche en sciences sociales qui se concentre sur des éléments particuliers, des individus, des événements, des groupes et des situations, des documents et des œuvres culturelles ou artistiques et se concentre sur ce qui leur est propre.

**Multimodal** qualifie une combinaison de plusieurs interventions ou traitements.

L'approche **multidisciplinaire** se base sur les connaissances de différentes disciplines tout en respectant leurs délimitations.

L'approche **interdisciplinaire** vise à analyser, synthétiser et harmoniser les liens entre les disciplines en un tout coordonné et cohérent.

L'approche **transdisciplinaire** intègre des domaines scientifiques distincts et dépasse leurs frontières traditionnelles.

L'approche **catégorielle** établit des catégories diagnostiques prédéfinies. Le diagnostic psychiatrique vise alors à identifier la présence ou l'absence d'un trouble psychiatrique chez un patient, puis à classer le trouble du patient dans une catégorie diagnostique selon des critères préétablis.

L'approche **dimensionnelle** repose sur la conception des symptômes comme un continuum entre le



normal et le pathologique et comme non-exclusifs entre les catégories diagnostiques. Le diagnostic psychiatrique vise alors à évaluer les différentes dimensions des symptômes du patient et à les nuancer en fonction de leur intensité.

(Blanchet-Collet, 2019; Devereux et al., 1970, 1972; Guessoum, 2019; Wharton, 2006; Ghaemi, 2004)