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Who Are People with Psychosis Delusional about? A Study of Social Agents in the Phenomenology of Delusions

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Abstract
Introduction: Delusions frequently involve strong beliefs about, or interactions with, illusory social agents. Although such agents have been systematically described in hallucinations, few studies have investigated their nature and identity in delusions. ***Methods:*** We identified 205 electronic mental health records describing the content of delusions from the Clinical Record Interactive Search platform at South London and Maudsley NHS Foundation Trust. Delusional content was classified as non-social, implicitly social, or explicitly social. Descriptions of illusory social agents from explicitly social delusions were extracted and categorized using an upward coding analysis. A hierarchical cluster analysis identified distinct groupings of illusory social agents. ***Results:*** Most delusions (83.4%) contained explicit references to illusory social agents. Across 238 instances, we identified 220 distinct agent identities, with a mean of 1.17 agents per record. The majority were humans (85.1%), most often identified as family members (31.0%), followed by acquaintances (17.2%), religious figures (13.2%), unnamed persons (12.8%), professionals (11.8%), and cultural figures (10.9%). Hierarchical clustering revealed two distinct groups: one including socially proximate agents and the other more socially distant agents. These findings indicate a social gradient in delusions. ***Conclusion:*** Social content predominates in delusions, with patients experiencing delusions about socially closer individuals more frequently. We discuss the extent to which social gradient may not be unique to delusional misidentification syndromes but may instead represent a general feature of delusions. Better characterization of social agents in delusions could inform mechanistic accounts of these symptoms and, in clinical practice, guide family support and risk assessment.

Introduction

Delusions are the most common symptom of psychotic disorders and are present in approximately 65% of cases [1]. Delusions and hallucinations are core positive symptoms of psychosis [2] and commonly feature social themes, a pattern consistently documented across diagnostic categories, cultural contexts, and historical periods [3–5]. One common characteristic is the experience of illusory social agents, who appear either as hallucinated voices [6] or within the content of delusions [7], and can be a significant source of disability [8, 9].

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Several studies have characterized how illusory social agents appear in hallucinated voices. In a large-scale survey of 153 voice hearers, 69% attributed a distinct character or persona to their voices, 22% identified them as known individuals, and 16% as supernatural beings [10]. Another phenomenological study reported that 61% of patients assigned a specific identity to their hallucinated voices [11]. An in-depth phenomenological comparison revealed that 48% of patients with psychosis attributed their voices to an external agent, most commonly a living person or people (33%), or a spiritual entity (28%) [12]. More recently, an interview study of 40 voice hearers with first episode psychosis reported that 75% experienced recurring voices with a distinct character, and 40% described complex personification involving a clear identity and/or intentional state [6].

Although illusory social agents in hallucinations have been well documented, studies characterizing illusory social agents in delusions remain limited and have mainly focused on illusory "persecutors" in the context of persecutory delusions. Despite widespread recognition of social themes in delusional symptoms of psychosis, as evidenced by prevalence studies conducted cross-diagnostically and cross-culturally [3–5], considerably less research has focused on characterizing illusory social agents within delusions. In a cross-diagnostic study [13] of persecutors in persecutory delusions, most were identified as humans, with single and multiple persecutors occurring equally frequently. In a study of patients diagnosed with schizophrenia [14], "persecutors" in delusions were identified as family members, neighbours, friends, medical staff, TV announcers, and spies. However, in these studies, the characteristics of illusory social agents were not the primary research focus but were reported within broader investigations of psychosis more generally or delusional themes, with their classification being only a minor component. To our knowledge, no studies have exclusively examined illusory social agents in delusions, despite their documented prevalence in meta-analytic reviews of delusional themes across diagnoses and historical periods [15].

One challenge with conducting research on delusional agents is that delusions are more strongly associated with lack of insight than hallucinated voices [16–19]. In contrast to delusions, only a minority (17.1%) of individuals who hear voices are unaware that their voices are not real [20]. This means that self-report survey methods, which are common in research on hallucinated voices, present an additional challenge in delusions, as patients are less likely to report that they have a delusional belief as it is, by definition, "a fixed false belief based on an inaccurate interpretation of an external reality despite evidence to the contrary" [21]. Therefore, when asked, most participants are likely to struggle to distinguish illusory social agents in delusions from genuine social actors in their everyday lives. As a result, characterizing the phenomenology of delusions typically requires a clinical interview, which is both time-consuming and resource-intensive.

One solution to this problem is the use of research platforms that allow the large-scale analysis of anonymized clinical records. Clinical Record Interactive Search (CRIS) is a clinical record research platform based on the South London and Maudsley (SLaM) NHS Foundation Trust, a mental health service provider in South London that has records for over 250,000 patients [22]. This system has been previously used to study even rare delusions on a large scale [23–25] and has the advantage of containing rich phenomenological descriptions of delusions from clinical assessments.

Consequently, in this study, we aimed to understand illusory social agents in delusions by (i) identifying the proportion of delusions with social content and (ii) characterizing the illusory social agents that appear in the social content of delusions. Finally, given that prior meta-analyses [15] and social agent studies [24, 26, 27] have suggested that there may be differences in the frequency with which different types of social agents are present, we additionally completed an agglomerative hierarchical cluster analysis (AHCA) to examine the extent to which social agent types might form distinct groupings, potentially providing additional information about the social structure of delusions.

Methods

Setting

We used electronic mental health records accessed through the CRIS platform developed by the SLaM Biomedical Research Center (BRC) in London, UK. SLaM is a UK National Health Service mental health service provider that covers a geographic catchment area of four South London boroughs (Lambeth, Southwark, Lewisham, and Croydon) and provides mental health services to approximately 1.3 million residents [22], making it one of the largest mental health care facilities in Europe. CRIS has ethical approval for the use of secondary medical record data in research (Oxford REC C, reference 18/SC/0372) and this study was approved by the CRIS Oversight Board.

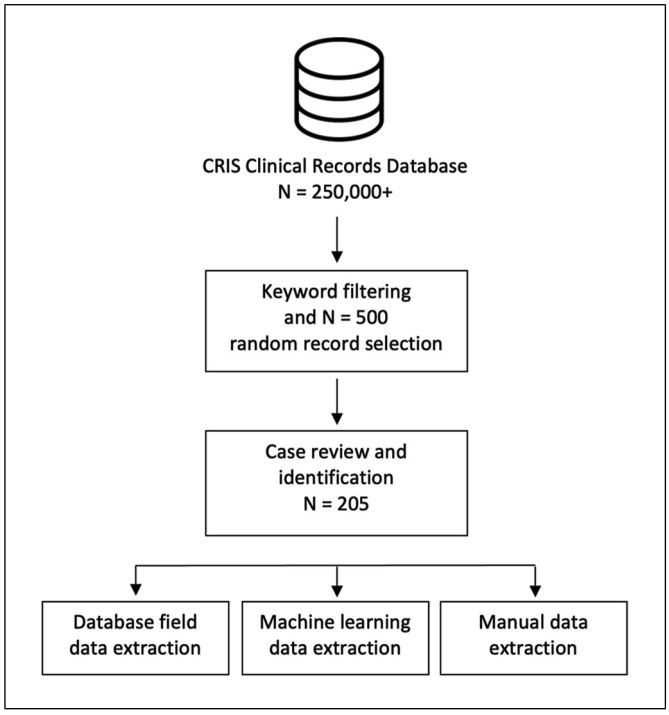

Fig. 1. Data extraction procedure.

Procedure

Case Identification and Case Information Extraction

The records database was searched using the keyword "delusion" and 500 records that matched the keyword were randomly sampled using the built-in random sampling algorithm. Each extracted record was independently rated by two authors (E.P. and V.B.) to identify cases in which (i) a delusion was confirmed as currently present by a mental health professional and (ii) a description of the delusion's content was included. Cohen's kappa was calculated to identify inter-rater reliability, and disagreements between raters were resolved by consensus. After case identification, we retrieved data on the date of record that contained the included records, age, sex, marital status, ethnicity, and primary and secondary clinical diagnoses for each identified case from the relevant database fields. We used the platform's built-in natural language processing tools to extract prescribed medications. The data extraction procedure is illustrated in Figure 1.

Social Content Categorization and Extraction

Descriptions of delusions were classified into one of three categories: (a) "non-social" where no social content was included (for example, "the patient has a delusion that post-boxes are emitting radio waves"), (b) "implicitly social" where a social agent was implied but not explicitly referenced in the description (for example, "the patient has a delusion that they are under surveillance"), and (c) "explicitly social" where a social agent was explicitly mentioned in the description (for example, "the patient has a delusion that they are under surveillance by the Queen"). Note that "explicitly social" delusions were classified as such even if a specific person was not named, so, for example, "the patient has a delusion that a person is following them" would be equally classified as explicitly social because it references a specific social agent ("person").

From the subset of delusions classified as containing explicit social content, we extracted and tabulated the identities of illusory social agents. In this report, we focus exclusively on individual agents, although some records referred to collective or institutional entities (e.g., the CIA, the Mafia, community mental health teams, and the national military), restricting analyses to individual agents allowed for precise specification of their attributed identities and characteristics. Individual agent identities were first coded using focused codes, which are short descriptive labels, and were subsequently organized into broader categories. This analysis was conducted using the upward coding approach, which involves organizing codes into meaningful and overarching themes [28]. The upward coding method is a unidimensional, first-level analytic description that identifies commonalities between themes and synthesizes lower level concepts to higher level conceptual categories [28]. Both raters worked independently at all stages, and consensus was reached on the final construction of the overarching code themes.

Statistical Analysis

Linear regression analyses were conducted using the *lm* function from the *base* R functions version 4.5.0 [29] to assess whether age, sex, marital status, ethnicity, and diagnostic category predict the number of explicit agents reported in the records. Diagnoses were grouped into condensed categories: "psychosis," "affective disorder," "organic psychosis," and "unspecified disorder." To explore whether certain illusory agent identities were more common within specific diagnostic categories, a Pearson's chi-square test of independence with Yates' continuity correction and a simulated p value (based on 10,000 replicates) was conducted using *base* R functions.

To identify illusory social agent groupings, we used AHCA, an unsupervised machine learning technique [30]. Social agent identities with minimal variance (N = 1; e.g., "social support professional," "fictional being,"

"not specified") were excluded from the analysis, as they did not contribute to distinguishing between cases. The analysis was conducted using the *FactoMineR* R package [31], with visualizations generated using the *factoextra* R package [32].

A bottom-up agglomerative approach was implemented using three steps: (1) computing dissimilarity between cases using correlation-based distance metrics derived from the correlation matrix, (2) applying Ward's minimum variance method for amalgamation [33], cross-validated with the average linkage method to minimize within-cluster variance and maximize between-cluster variance; and (3) determining the optimal number of clusters using average silhouette analysis from the *factoextra* R package. To assess the validity of the final cluster solution, cluster quality was evaluated using the silhouette coefficient, which measures how well each case fits within its assigned cluster [34]. To evaluate how reliably the dendrogram reflected the pairwise distances in the original, unmodeled data, we computed the cophenetic correlation coefficient (CCC) [35]. To assess the robustness of the clustering solution, we implemented a bootstrap resampling procedure with 1,000 iterations, each time randomly selecting 70% of patients. For each resample, we recomputed the tetrachoric correlation matrix, derived a distance matrix, and applied hierarchical clustering (Ward's method). The CCC was then calculated to evaluate model fit, and we summarized its distribution (mean and 95% CI). We also recorded the proportion of resamples in which a two-cluster solution was recovered and generated a consensus co-clustering matrix to capture how consistently variables clustered together across bootstraps. Finally, a heatmap of the dissimilarity matrix was created using the *pheatmap* R package, with hierarchical clustering applied to reorder rows and columns [36]. To obtain low-dimensional representations of the dissimilarity structure, we applied Uniform Manifold Approximation and Projection (UMAP) using the *umap* R package, run directly on the dissimilarity matrix, using default parameters [37]. The two-dimensional embeddings from UMAP algorithms were labelled according to variable identity and coloured by cluster membership.

Results

We identified 205 patients with delusions at the independent rating stage. Independent agreement between raters was high, with Cohen's kappa of 0.85. The mean age as reported at date of identification was 46.2 years (*SD* = 18.1; range = 16–91), with the majority being male (*N* = 116, 56.6%). In terms of ethnicity, 42.9% (*N* = 88) were black and 40.0% were white (*N* = 82). The demographics of all subcategories are shown in online supplementary Table S1 (for all online suppl. material, see https://doi.org/10.1159/000548611).

Primary diagnoses included schizophrenia (*N* = 67, 32.7%), unspecified mental disorder (*N* = 41, 20.1%), unspecified non-organic psychosis (*N* = 16, 7.8%), and bipolar disorder (*N* = 15, 7.3%), with full diagnostic classifications shown in online supplementary Table S2. Seven diagnostic clusters were created: psychoses (*N* = 109, 53.4%), unspecified mental disorders (*N* = 41, 20.1%), affective disorders (*N* = 25, 12.3%), organic psychoses (*N* = 19, 9.3%), personality disorders (*N* = 4, 2.0%), somatic disorders (*N* = 1, 0.5%), and "no diagnosis entry" (*N* = 6, 2.9%).

One-hundred and thirteen patients (55.1%) had a record of antipsychotic medication: 26.1% (*N* = 54) received at least two antipsychotic medications, and 6.8% (*N* = 14) received at least three antipsychotic medications. The most frequently prescribed medication was olanzapine (*N* = 46, 22.4%), followed by aripiprazole (*N* = 24, 11.7%), and risperidone (*N* = 24, 11.7%). Detailed antipsychotic prescription history is shown in online supplementary Table S3.

Social Content Classification

The vast majority of delusions were social in content, with 173 out of 205 records (83.4%) containing explicit references to illusory social agents in descriptions of delusions. Twenty-eight records (13.7%) described delusions that implied social agency, while 59 records (28.8%) included at least one description without explicit or implicit references to illusory social agents, classified as "non-social delusions." Over half of the patient records (*N* = 122, 59.5%) included descriptions of delusions that solely involved explicit reference to social agents. Twenty-one records (10.2%) included descriptions of delusions involving both explicit and implicit illusory social agency, and 33 records (16.1%) described both explicit illusory social agents and non-social delusions. Finally, a small minority of records 6 (2.9%) described only implicit social agency, whereas 34 records (16.6%) described only non-social delusions. The number of delusion types exceeds the number of case records, as individual case records may contain descriptions of multiple delusion types.

Individual Agent Identities within Descriptions of Delusions

The mean number of individual illusory social agents reported per record was 1.17 (*SD* = 1.69, *range* = 0–10). Among those who reported at least one illusory social

Table 1. Categories of individual explicit illusory social agents in descriptions of delusions

Single-agent category	*N*	%
Family	68	31.0
Parent	15	6.8
Partner/s	15	6.8
Offspring	14	6.4
Extended family (e.g., grandparents, niece, and aunt)	11	5
Former partner	6	2.7
Sibling	4	1.8
In-law relative	3	1.4
Acquaintance	38	17.2
Neighbour	10	4.5
Named woman	7	3.2
Named individual	6	2.7
Named man	6	2.7
Personally defined person/people	4	1.8
Housemate/s	3	1.4
Former coworker	2	0.9
Religious figure	29	13.2
God	9	4.1
Jesus	8	3.6
Virgin Mary	1	0.5
Devil	7	3.2
Religious being (i.e., demonic presence)	1	0.5
Religious figure (i.e., Pope, Messiah)	3	1.4
Unnamed person	28	12.8
Unnamed child/children	7	3.2
Unnamed individual	7	3.2
Unnamed man	6	2.7
Harmful individual	5	2.3
Unnamed woman	3	1.4
Professional	26	11.8
Healthcare professional	21	9.5
Professional identified by role	4	1.8
Social support professional	1	0.5
Cultural figure	24	10.9
Famous figure (e.g., business leader, sports star, and actors)	7	3.2
Royal figure	7	3.2
Political figure	4	1.8
Historical figure	3	1.4
Military figure	2	0.9
Fictional being	1	0.5
Other	7	3.2
Animal	3	1.4
Spiritual being (i.e., evil presence)	3	1.4
Not specified	1	0.5

agent, the mean number of individual illusory social agents was 2.18 (*SD* = 1.76). Collectively, the patient records documented 238 explicit individual illusory social identities in delusions reported as 220 distinct identities. The difference between the number of identities and distinct identities arises from the fact that, for example, "six children" would be counted as six distinct individual identities, but only as one label. Individual social identities were consolidated into 37 focused codes and 7 general categories (see Table 1).

Out of the agent types, "family" was the most commonly reported category (*N* = 68, 31.0%), with "parent" (*N* = 15, 6.8%), "partner/s" (*N* = 15, 6.8%), and "offspring" (*N* = 14, 6.4%) being the most frequently

identified within this category. The second most prevalent category was "acquaintance" (N = 38, 17.2%), with "neighbour" (N = 10, 4.5%) being most commonly identified. The third was "religious figure" (N = 29, 13.2%), with "God" (N = 9, 4.1%) being the most commonly reported agent. "Unnamed person" was the fourth category (N = 28, 12.8%). The fifth category, "professional" (N = 26, 11.8%), was primarily associated with "healthcare professional" (N = 21, 9.5%). The sixth most prevalent category was "cultural figure" (N = 24, 10.9%), with "famous figure" (N = 7, 3.2%) and "royal figure" being the most commonly identified. Finally, 7 patients (3.2%) reported agents coded as "other." Most individual explicit illusory social agents were defined as human (N = 183, 85.1%), followed by religious figure (N = 28, 13.0%), supernatural being (N = 4, 1.9%), animal (N = 3, 1.4%), and unspecified (N = 1, 1.4%).

Demographic and Clinical Associations with Individual Agent Identities

Within the psychosis group (N = 116, 56%), the most common agents were "family" (N = 38, 32.8%), followed by "acquaintance" (N = 23, 19.8%). Patients in the unspecified disorder cluster reported 43 (20.8%) individual agents, with "family" (N = 14, 32.6%) being the most frequent. Among patients with affective disorders, 27 (13.0%) individual agents were reported, most frequently "religious figure" (N = 6, 22.2%) and "professional." In the organic psychosis cluster, 21 (10.1%) individual agents were reported, with "family" (N = 8, 38.1%) being the most common. The results of Pearson's chi-square test of independence between diagnosis group and individual illusory social identity were not statistically significant (χ^2 = 26.52, p = 0.086), indicating no strong evidence of differences in the distribution of social agent types between diagnostic groups. There were no statistically significant associations between any demographic or clinical factors and the number of explicit agents reported ($p > 0.05$).

Hierarchical Clustering of Individual Agent Identities

After excluding focused codes occurring in fewer than two cases, 32 codes derived from 109 records containing explicit references to 215 distinct individual illusory social agent identities were retained for cluster analysis to identify agent groupings. Automated analysis of the silhouette plot indicated that a two-cluster solution was optimal (see online suppl. Fig. S1 for the plot of optimal cluster solution identification). The CCC was 0.84, suggesting a good fit between the original dissimilarity matrix and the dendrogram, indicating that the clustering structure preserved the original distances well. Bootstrapping confirmed the robustness of the clustering solution: across 1,000 iterations with 70% resampling, the mean CCC was 0.87 (*95% CI*: 0.84–0.89), and a two-cluster solution was recovered in 100% of resamples. This indicates that the two-cluster structure is highly stable and robust to sample noise. The online supplementary material includes a heatmap of the pairwise dissimilarities (online suppl. Fig. S2) and two-dimensional UMAP embeddings (online suppl. Fig. S3), which further illustrate the separation between clusters. The cluster solution is illustrated in Figure 2. Cluster 1 (N = 27) comprised a broader range of illusory social agents characterized by greater social distance from the individual, while cluster 2 (N = 5) primarily included socially closer agents, with the exception of "sibling" which appeared in cluster 1. The average silhouette value for a two-cluster solution was 0.21 (SD = 0.09), and the corresponding silhouette plot is shown in online supplementary Figure S4, indicating acceptable validation metrics.

Discussion

The majority of the descriptions of delusions (83.4%) were social in nature, with only a minority being non-social. These findings suggest that social themes are highly prevalent in delusional content. In line with previous evidence from studies on hallucinations [6, 10], social agents were primarily identified as humans and described as highly personified and characterized with a large range of identities. This highlights how social agents are prevalent across positive symptoms and are not restricted to hallucinated voices [7, 38, 39]. Patients with psychosis were more frequently delusional about people who were socially closer to them than about those who were more socially distant, and cluster analysis indicated that socially closer and socially distant agents tended to group together, potentially indicating a social gradient in delusional phenomenology.

A tendency to be delusional about people who are socially closer than those who are more socially distant has been previously noted in Capgras syndrome and related delusional misidentification syndromes [24, 26, 27]. Indeed, this has been considered a key definition of delusional misidentification syndromes for people [40] and has been a key explanatory focus of cognitive models, where this feature has been explained by a dysfunction in the implicit facial recognition route for

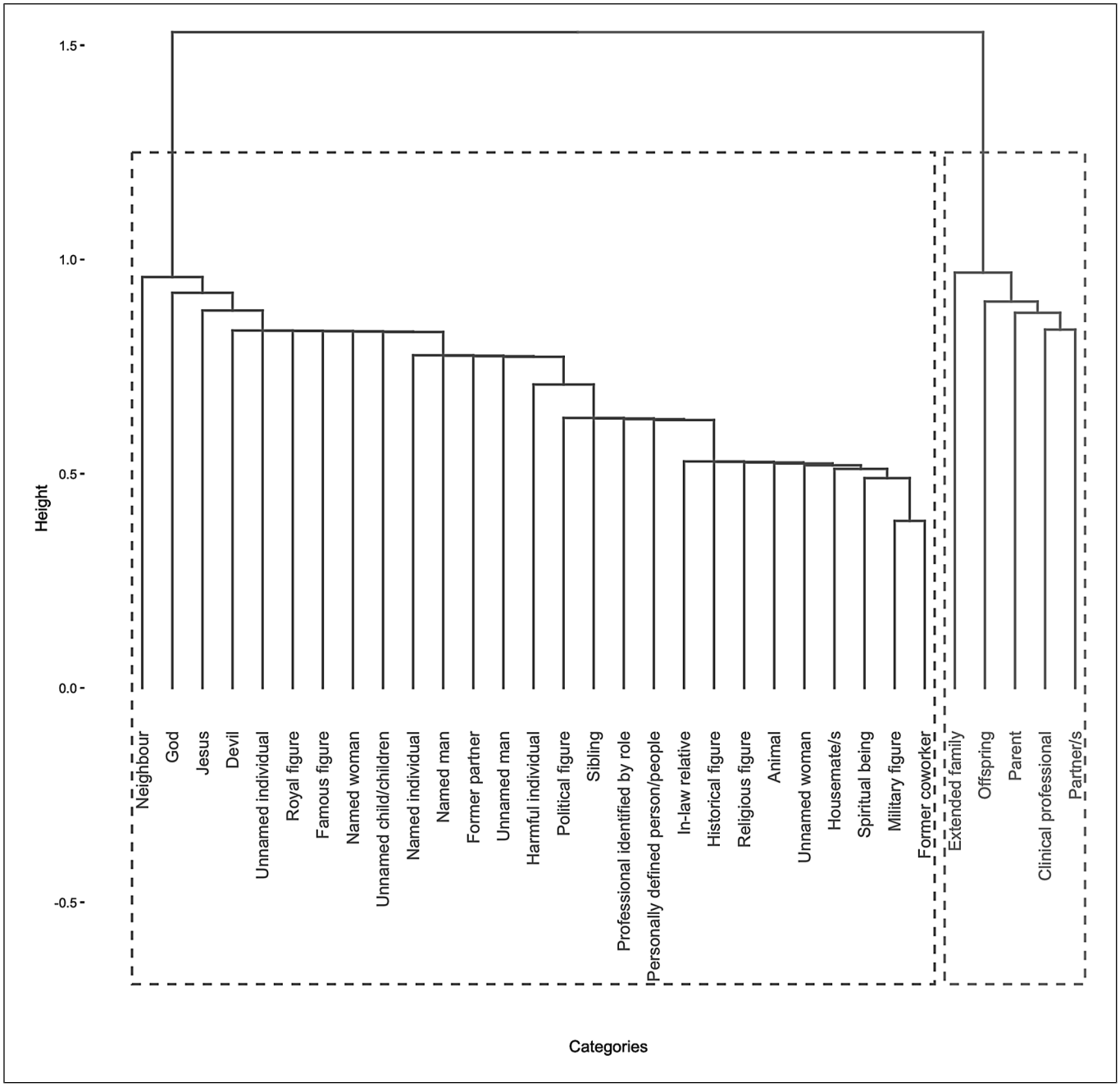

Fig. 2. Dendrogram of hierarchical clustering with optimal clusters.

familiar people [41]. The results reported here, and those from a recent meta-analysis of delusional themes across diagnoses [15], suggest that a tendency to be more frequently delusional about socially closer people may not be a specific feature of Capgras-like delusional misidentification syndromes but may be a more general feature of delusions.

The identification of the "who" in delusional phenomenology may also have important clinical implications. Understanding both the distribution of social agents featured in delusions and the specific social focus of a patient's delusions may be important for assessing forensic risk. A study on the risk of lethal violence in psychosis [42] found that severely violent

forensic patients were more likely to hold delusional beliefs about specific personal targets. Notably, the distribution of social agents in the present study closely resembled the pattern of violence targets reported in a separate study [43] of individuals found not to be criminally responsible on account of mental disorders. In that study, targets of violence most frequently involved socially closer individuals, including family members, romantic partners, or former partners (39.3%), followed by professionals (14.3%), acquaintances or friends (14.3%), and neighbours (8.9%). More socially distant agents were less commonly identified, including a co-patient, roommate, or unknown individual (e.g., a passerby; 8.9%), a public figure (5.4%), or a coworker (5.4%). However, identifying the social focus of delusions may also be important for less severe and more common forensic outcomes such as harassment [44].

In addition, a better understanding of how social agents appear in delusions may contribute to tailoring family support and interventions in psychosis [45]. Qualitative evidence from caregivers suggests that delusions involving individuals uniquely contribute to family stress [46]. Therefore, highlighting the interpersonal content of delusions may support more targeted psychoeducation for family members, aiming to improve their understanding and communication [47]. We further argue that agent-specific advice, for example, managing delusions about family members versus delusions about external individuals, may be a valuable avenue for enhanced family support.

The present findings have potential implications for mechanistic accounts of delusions. Socio-cognitive systems involve mechanisms to internally model social agents [48, 49] and the frequent occurrence of illusory social agents in psychosis suggests disruptions in the cognitive and neural mechanisms involved in social agent representation [7, 50, 51]. These disruptions may result in an overactive or dysregulated generation of agentive representations [47], leading to the perception of intentionality or agency where none exists [48]. We note that this may primarily relate to delusions with social themes, rather than to the full spectrum of delusions, which includes non-social themes.

Even though the present study reported a large majority socially themed delusions, 16.6% of patient records described delusions without any social content. Although we did not analyse their specific content in this study, they may correspond to relatively common subtypes such as somatic delusions and delusional parasitosis [15] which, in their typical clinical definitions [52], are not considered inherently social [7]. However, although individuals with delusional parasitosis typically hold persistent false beliefs of infestation, often accompanied by sensory hallucinations such as formication [53, 54], case reports indicate that it can also include social components, such as beliefs that other people are the agents of infection [55, 56]. Delusional parasitosis may also present as shared infestation, folie à deux, or by proxy, where the delusional conviction extends to a partner, child, or pet being infested [57–60]. Some delusions may be harder to identify as "social" or "non-social." For example, solipsist delusions [61, 62], where the external world and others are seen as mere projections of the self, may on one level appear non-social. However, phenomenological analysis highlights the "paradox of solipsism" [63] that such beliefs presuppose the existence of another consciousness as a reference point [64]. Therefore, descriptions of apparently non-social delusions may include social elements that were undocumented in clinical records, even though they might emerge through delusional elaboration or be uncovered during clinical investigation.

Limitations

This study has some limitations. Principally, it relies on data from clinical records to assess delusional content and the presence of illusory social agents. The use of electronic medical records from the CRIS database may introduce potential biases related to the accuracy and completeness of documented data. Although case registry studies offer the feasibility of assessing a large sample of patient reports [65], the quality of the information depends heavily on the priorities of clinicians and healthcare systems where patients are treated. Medical records may not capture all the instances of illusory social agents in delusions. Although electronic health records are generally accurate, with low rates of registry and administrative errors for psychotic disorders, particularly schizophrenia, due to detailed and longitudinal documentation of symptoms [65], the identification of social agents in delusions, especially persecutors [66], is clinically important and thus often recorded by clinicians, given its relevance in assessing the risk of patients acting on their delusions [67]. Nonetheless, some social agents might be underreported or overlooked entirely, particularly if

they are not deemed as clinically relevant at the time of documentation. Given this study identified records containing the term "delusion" that described delusional content, regardless of which mental health professional authored them and their relevant clinical priorities, future research should examine how clinical context and professional training shape the documentation of delusional experiences, as these factors may affect both the content recorded and its subsequent interpretation.

Another limitation of registry data is the interpretation of missing data. Although there was a low level of missing data in clinical and demographic variables, the meaning of this missingness is unclear because data collection was not performed by the researchers, but by mental health professionals responsible for data entry. Consequently, missing data might indicate underreporting of certain patient diagnoses, ethnicities, or other variables [68], or it could reflect random or differential misclassification [69].

Finally, the sample was drawn from a specific clinical population within the South London and Maudsley NHS Foundation Trust (SLaM), which may limit the generalizability of the findings to other cultural settings or populations. It is noteworthy that the records used in this study are from one of the largest providers of secondary mental healthcare in Europe, serving a highly diverse clinical population with varied backgrounds and complex mental health needs [22]. However, expanding the study to include diverse cultures and populations beyond the UK could reveal the cross-cultural depth and complexities of social agent representation in psychosis. Such an expansion could offer valuable insights into the universality and cross-cultural prevalence of specific illusory social identities, potentially informing tailored and effective treatment approaches for different populations.

Conclusion

This study offers one of the first systematic characterizations of illusory social agents in delusions using clinical data from patients' medical records. The findings suggest that social content is a prominent feature of delusional phenomenology, with particular emphasis on socially close individuals. This pattern appears to reflect a broader social gradient in delusions that extends beyond specific misidentification syndromes. Identifying common agent types and their distributions has important implications for risk assessment, forensic evaluation, and family focused interventions. Future research should examine these patterns across diverse populations and clinical settings to deepen our understanding of the role of social agents and their social proximity in delusional experiences, and to inform mechanistic accounts of delusions.

Statement of Ethics

Access to CRIS was granted by the CRIS Oversight Committee following submission of a project application (Project Approval No. 18-040). The study utilized data from the CRIS system, which supports secondary analysis of anonymized electronic health records collected during routine clinical care and operates under an opt-out model. This model ensures that patient data are de-identified for research, while allowing individuals the opportunity to opt out of having their data included. As all data are fully anonymized and used exclusively for research purposes, the system is exempt from the requirement for written informed consent. Ethical approval for the CRIS platform and its use in secondary research was granted by the Oxford C Research Ethics Committee (Reference: 08/H0606/71+5).

Conflict of Interest Statement

There are no conflicts of interest to declare.

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Author Contributions

Conceptualization, project administration, data collection, data curation, formal analysis, investigation, and methodology: E.P. and V.B. Writing of original draft: E.P. Review and editing: E.P., V.B., and N.H.

Data Availability Statement

The data supporting the findings of this study are not publicly available due to conditions of access to the CRIS system. Further enquiries can be directed to the corresponding author.

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