

A Prototype Analysis of Paranoia

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Abstract

In recent years, clinical disorders, including paranoia have been conceptualised as dimensional rather than categorical (Caspi et al., 2013; Ellett et al., 2013). The term ‘paranoia’ itself has moved into the lexicon of everyday language. Despite this shift, no empirically derived, comprehensive lay definition exists. Two studies are presented that sought to investigate lay conceptions of paranoia in order to develop and validate a prototype of the construct and thereby understand how individuals themselves define and conceptualise paranoia.

Study 1 presents a two-part study, aiming to address the question around whether lay views of paranoia have a prototype structure, characterised by a core set of central and peripheral features. Study 1 found evidence that the concept meets criteria for prototypic organisation. The prototype uncovered a view of paranoia that in many ways mirrored that of psychiatric and theoretical conceptions.

The second part (Study 2) presents the first steps involved in testing and validating the prototype and was specifically aimed at addressing the question of whether the paranoia prototype is used to guide information processing. Study 2 found, consistent with prediction, that centrality of features affected cognition (Hepper, Ritcher, Sedikides & Wildschut, 2011; Kearns & Fincham, 2004). The prototype was activated to a greater extent when participants encountered a word or phrase that was central to the construct of paranoia.

Results from this series of studies provide initial support for the idea that people have and use a prototype for paranoia. The prototype is supportive of dimensional views of paranoia. Despite the need for further validation, the prototype provides an important step in promoting lay views. In addition to this it acknowledges similarities and differences between lay conceptualisations, theoretical and professional perspectives. The thesis concludes with a discussion of theoretical, clinical and research implications of the findings.

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Chapter 1: Introduction

1.1 Overview of Introduction Chapter

In recent years, clinical disorders, including paranoia have been conceptualised as dimensional rather than categorical (Caspi et al., 2013; Ellett et al., 2013). There is now a proposed continuum of paranoia, which suggests milder forms are commonly experienced within nonclinical populations (Bebbington et al., 2013; Ellett, Lopes & Chadwick, 2003; Fenigstein & Vanable, 1992; Freeman, 2008; Freeman et al., 2011), with persecutory delusions being the clinical manifestations at the extreme end of the continuum (Strauss, 1969). Such findings have begun to free paranoia from its associations with severe mental illness and paranoia is now viewed as a phenomenon to be explained in its own right (Ellett et al., 2003; Ellett et al., 2013; Ellett & Chadwick, 2007; Freeman, 2007). The term ‘paranoia’ itself has moved into the lexicon of everyday language. Despite theoretical (Freeman & Garety, 2000) and psychiatric definitions (e.g. Diagnostic and Statistical Manual of Disorders, 5th ed.,; *DSM-V*; American Psychiatric Association, 2013) acknowledging this shift, at present no empirically derived and comprehensive lay definition exists. Given paranoia’s widespread cultural and societal significance there is now a need to improve definitional coverage of the construct. This will improve our understanding of how individuals themselves define and conceptualise it and the nature and mechanisms by which paranoia operates. In particular, the current thesis proposes that laypersons’ views of paranoia will have a prototype structure characterised by a core set of central features. By understanding this, it is hoped that important new knowledge will be generated about the phenomenon of paranoia. Based on this, the current project aims to provide new directions and methods for studying paranoia. This chapter begins by

exploring conceptions of paranoia to date. It will then move on to present the rationale as to why it is important to understand lay conceptions of paranoia, whilst reviewing what we already know about such conceptions. Considerations around definitional approaches are given and an overview and critical appraisal of prototype theory for paranoia is made. The chapter will conclude by outlining the study and proposed research questions.

1.2 Conceptions of Paranoia

Historical conceptions.

The term “paranoia” originates in the early 19th century, and is modern Latin, derived from the Greek *paranoos* ‘distracted’, from *para* ‘irregular’ and *noos* ‘mind’ (Oxford English Dictionary, 2015). Early psychoanalytic theories viewed paranoia as a psychological disorder, serving a defensive function and definitions focused largely on the diagnostic aspects of the disease. For example, Freud and Breuer (1895) suggested that sexual disturbances might play a significant role in the aetiology of paranoid delusions. More specifically, Freud (1896) postulated that projection was the primary defense mechanism in paranoia and that unconscious homosexual conflict lay at the root of most cases of paranoia. Conceptions of paranoia were, for the most part, dominated by descriptions of symptomatology.

Psychiatric perspectives.

In the late nineteenth and early twentieth century, early psychiatric perspectives, similarly to Freud (1896), assumed that paranoia was some kind of disorder located within the individual, perhaps indicating a biological cause (Schifferdecker & Peters, 1995). This mirrored a whole range of concepts and practices at the time, which were

being defined and calibrated within a political climate in which the idea of ‘suspicion’ was emerging (Foucault, 1979; Henriques et al., 1984; Rose, 1989). The emerging discipline of psychiatry was able to step into the breach and contributed to the construction of madness, developing ways of thinking about normality and abnormality (Foucault, 1980). New means of dealing with ‘madness’ and regulating the population were being found (Miller, 1986). Therefore, the emergence of suspicion as a psychiatric concept through the demarcation of ‘paranoia’ occurred not just through the professional aspirations of medicine but also alongside the political and historical necessities of the time (Harper, 1999). In particular, the assertion of paranoia as an individual pathology conveyed the importance of trust, rationality, reasonableness and optimism as qualities of the new concept of the ‘self’ (Rose, 1989). This allowed for the expansion of literature around diagnosing psychiatric disorders including schizophrenia. Such classificatory systems implied the notion of paranoia as a pure pathology, a single disease (e.g. Diagnostic and Statistical Manual of Disorders; 3rd ed.; DSM-III; APA, 1980; 3rd ed., rev.; DSM-III-R; APA, 1987).

During the last century, psychiatric perspectives have continued to see paranoia as a discrete symptom, a sign of severe mental illness, and relied upon a Kraepelinian dichotomous approach (Esterberg & Compton, 2009). This perspective significantly influenced the conceptualisation of psychiatric disorders. This included psychosis, as evidenced by systems of classification (e.g. DSM-IV; APA, 1994), which have determined the presence of psychiatric disorders by applying certain operationalised criteria (Johns & van Os, 2001). These diagnostic manuals conceptualised paranoia as *“a pervasive distrust and suspiciousness of others such that their motives are interpreted as malevolent”* (4th ed.; DSM-IV; APA, 1994). The concept of paranoia

has frequently been associated with schizophrenia, delusional disorder and paranoid personality disorder, but has also been related to diagnoses such as depression and anxiety (APA, 1994).

This dichotomous or categorical approach has been the dominant approach to paranoid delusions for many years (Jones et al., 2003), with Jaspers (1963) arguing that delusions, and the mechanisms that form and maintain them, are distinct from normal beliefs. However, such conceptualisations and diagnostic criteria for paranoia have been widely criticised for: (1) conceptual incoherence and susceptibility to significant counter examples, and (2) prioritising form over content (Bell, Halligan & Ellis, 2006; David, 1999; Leeser & O'Donohue, 1999; Spitzer, 1990) which de-contextualises individual experiences. These approaches favoured clinicians' beliefs and fostered pathologisation (Boyle, 1992), in that society was assumed to be rational and homogeneous when compared to the paranoid individual (Harper, 1999).

However, in recent years such positions have become a contradictory view to evidence that demonstrates widespread prevalence of supposedly 'abnormal beliefs' within the general population (e.g. Fenigstein & Venable, 1992; Freeman et al., 2011). Such findings have now begun to be recognised and represented within the latest diagnostic manual, the DSM-V (5th ed.; DSM-5; APA, 2013).

Persecutory delusions within the DSM-V (Schizophrenia Spectrum and Other Psychotic Disorders) are described as the following:

"Delusions are fixed beliefs that are not amenable to change in light of conflicting evidence. Their content may include a variety of themes (e.g. persecutory, referential,

somatic, religious, grandiose)[...] Delusions are deemed bizarre if they are clearly implausible and not understandable to same-culture peers and do not derive from ordinary life experiences [...] The distinction between a delusion and a strongly held idea is sometimes difficult to make and depends in part on the degree of conviction with which the belief is held despite clear or reasonable contradictory evidence regarding its veracity” (5th ed.; DSM-5; APA, 2013).

Although differences initially do not seem very significant, there are some notable shifts. First, as many psychologists have commented, delusions need not be false (Coltheart, 2007), and being false is no longer a necessary condition for a belief to be delusional in the DSM-V description. Second, delusions do not need to be about external reality or to be based on incorrect inference. They could be about oneself and one’s own experiences, requiring little or no inference. Third, we may have no proof against the truth of a belief, even when the belief is wildly implausible, and this is reflected in the move from the phrase; “*despite what constitutes incontrovertible and obvious proof or evidence to the contrary*” (4th ed.; DSM-4; APA, 1994), to the phrase, “*despite clear or reasonable contradictory evidence regarding its veracity*” (5th ed.; DSM-5; APA, 2013). Finally and perhaps most significantly, the new account narrows the gap between delusions and other irrational beliefs, suggesting that the epistemic features of delusions are not unique to pathologies of the mind, but characterise many of our everyday beliefs. This change within the DSM-V (APA, 2013) introduced a radical shift in terms of dimensionality. Recognition of the notion of dimensions enabled clinicians to gauge severity of an individual’s condition by rating factors such as subjective distress and degree of impairment in addition to symptoms. However, it also allowed for disorders to be deconstructed into

components that could be addressed separately, such as the depression that accompanies many disorders. This approach acknowledged that ‘pure’ disorders are rare and comorbidity is the norm (Miller & Holden, 2010). This was a shift away from categorical classification of mental illness to an integrated categorical-dimensional approach (Pomeroy & Parrish, 2012). Such changes demonstrated acknowledgement of a possible dimensional view that psychiatric symptoms are on a continuum with normal mental states (Allardyce, Suppes & van Os, 2007). Although not fully replacing categorical diagnoses, the DSM-V changes go some way in capturing the underlying dimensional structure of psychiatric disorders, including psychotic symptomatology, within the constraints of a categorical system (Heckers et al., 2013).

Theoretical conceptions.

As with early psychiatric positions, initial theoretical notions solely conceptualised paranoia within the context of severe mental illness or as having defensive functions. Even then, researchers were trying to explain a diagnosis such as schizophrenia rather than paranoia itself or its component parts. However, towards the end of the 20th century theoretical conceptions of paranoia started to evolve. There emerged a need to take note of individual variability and the multidimensionality of the experience of paranoia, to better understand each dimension of the delusional experience. In particular focus shifted toward the cause of the content of a delusion, the degree of belief conviction, resistance to change, level of implausibility and distress caused. Literature began to acknowledge the possibility that different factors were involved in different dimensions of paranoid experiences and that delusions represented points on a continuum, with normal functioning distanced from schizophrenia by these different

factors (Strauss, 1969). In 1988, Oltmann outlined his position, which suggested that assessing the presence of paranoia might best be accomplished by considering a list of characteristics of dimensions, none of which are necessary or sufficient, that with increasing endorsement produce greater agreement on the presence of a delusion. Between 1990-2000 this concept was expanded upon. Researchers adopted a single-symptom approach to psychosis, isolating single elements of psychopathology for study. This approach facilitated greater theoretical understanding of important phenomena, such as delusional beliefs (e.g. Bentall, Kinderman, & Kaney, 1994; Garety & Hemsley, 1994; Trower & Chadwick, 1995) and provided greater argument to focus on the multi-dimensional nature of delusions (Freeman & Garety, 2000). As Spitzer (1992) stated, “*there is more to say about delusions than that they are present or absent*”.

These changes in perspective highlighted a significant lack of clarity around the concept of paranoia, persecutory delusions and their definition (Garety, 1985; Harper, 1992; Heise, 1988; Jones, 1999; Strauss, 1969). The implication of this for empirical research was that within the literature terms such as paranoia, persecutory beliefs and persecutory delusions were being used both interchangeably and to refer to different concepts (Freeman, 2008), leading to concerns around whether researchers were indeed studying the same phenomenon. Single-symptom research requires confidence that researchers are isolating the same elements of psychopathology and thus clear definitions of the phenomenon of interest are needed. Clarification around this issue specifically for persecutory delusions was offered by Freeman and Garety (2000), who outlined a set of robust criteria for delusions to be classified as persecutory. The full criteria are presented in Table 1.

Table 1

Freeman and Garety's (2000) criteria for defining persecutory delusions

Criteria A and B must be met:

A. The individual believes that harm is occurring, or is going to occur, to him or her

B. The individual believes that the persecutor has the intention to cause harm

There are a number of points of clarification:

I. Harm concerns any action that leads to the individual experiencing distress

II. Harm only to friends or relatives does not count as a persecutory belief, unless the Persecutor also intends this to have a negative effect upon the individual

III. The individual must believe that the persecutor at present or in the future will attempt to harm him or her

IV. Delusions of reference do not count within the category of persecutory beliefs

The main strength of these criteria were that they accommodated a view of paranoia as a common psychological process, rather than framing it within a diagnostic approach to mental illness; the presence of persecutory delusions did not necessarily signify mental illness. Despite not differentiating between clinical and nonclinical populations, thereby failing to capture possible distinctions between the two ends of the continuum, Freeman and Garety (2000) captured and accommodated a broad range of paranoid experiences, from mild to severe. Unlike early reductionist psychiatric criteria, this approach highlighted important dimensional aspects of delusional beliefs (e.g. conviction, preoccupation, distress). This was in keeping with the theoretical position that delusions exist on a continuum of normal human experiences (Strauss, 1969).

Furthermore, Freeman and Garety's (2000) approach included a focus on the content of such beliefs, notably emphasising the role of harm and the persecutor's intention to cause harm and did not require an external judgement regarding falsity or delusional. These criteria also, importantly, provided assurance that researchers were indeed studying the same phenomenon, enabling both a focus on pure phenomena and comparisons across research studies. By improving the clarity and validity of theoretical and research developments, Freeman and Garety (2000) facilitated the study of paranoia in both clinical (Green et al., 2006; Freeman, Pugh, Vorontsova, Antley, Slater, 2010) and nonclinical (Ellett et al., 2003; Freeman et al., 2008) populations.

Categorical Versus Continuous Approaches to Paranoia.

As described, the categorical, traditionally psychiatric, approach assumes a dichotomous view of psychosis and its core symptoms. This perspective considers qualitative differences between psychotic symptoms and their normal counterparts (Esterberg & Compton, 2009; Johns & van Os, 2001), arguing that delusions are distinct from normal beliefs (Jaspers, 1963). Such qualitative differences are seen to account for the observation that delusional beliefs are not formed on the basis of all relevant information, and are frequently unreceptive to counterargument (Jones et al., 2003). Seeing paranoia as discontinuous means that it is not deemed to be part of normal healthy psychological functioning (Tai & Turkington, 2009).

More recently however, paranoia has become a term that has moved into the lexicon of everyday language to describe ordinary feelings of mistrust and suspiciousness. This has paralleled an increasing evidence base and theoretical shifts supporting the

idea that paranoia lies on a continuum (Chapman & Chapman, 1980, Claridge, 1997; Johns, 2005; Peters, Joseph & Garety, 1999; Roesler et al., 2007; Rossler et al., 2011; Van Os & Verdoux, 2003). This dimensional view posits that paranoid delusions may be found at the severe end with milder attenuated forms being present in the general population (Combs, Michael & Penn, 2006; Freeman, 2007; Versmissen et al., 2008). Moreover it supports delusions are not discrete, discontinuous entities but better considered as complex, multidimensional phenomena (Garety, Everitt & Hemsely, 1988; Garety & Hemsley, 1994; Kendler, Glazer & Morgenstern, 1983) that differ in quantitative ways from normal experiences (Johns & van Os, 2001).

Distinctions within the dimensional view.

Despite sharing the concept of a continuum between clinical and nonclinical symptoms of psychosis, perspectives differ significantly in their approaches to the idea of dimensionality (Costello, 1994) and there is some confusion as to the nature of the continuum under discussion. Researchers commentating on this topic do not often distinguish between the variability and severity of the phenomena themselves, within or between individuals, versus the distribution of symptoms or risk factors in a population. However, some attempts to distinguish between the different sets of views have been made. These are represented within the phenomenological and vulnerability view and the continuous and quasi-continuous view.

The phenomenological and vulnerability distinction.

The phenomenological view assumes that the psychotic characteristics found in non-clinical populations are less intense, but not qualitatively different from those experienced by clinical populations (Costello, 1994). In contrast, the vulnerability

view proposes that the amount and severity of ‘psychosis like’ symptoms can signify vulnerability to the subsequent development of psychosis (Ellett, Allen-Crooks, Stevens, Wildschut & Chadwick, 2013). That is, it represents a person’s ‘psychosis proneness’ (Claridge, 1994; Mason, Claridge, & Williams, 1997).

The continuous and quasi-continuous distinction.

An additional distinction within the dimensional view is between continuous and quasi-continuous relationships between nonclinical symptoms of paranoid ideation and the clinical disorder of persecutory delusions. If the relationships between symptoms and disorder were truly linear this would create a smooth line of continuity, with severity and need for care increasing precisely in line with the level and frequency of symptoms (Johns & Van Os, 2001). The quasi continuous view, on the other hand, proposes that there is a normal distribution of psychotic symptoms; however at a certain point they become critical and an abrupt nonlinear increase in severity and need for care emerges. This quasi-continuous view is described as being the ‘disease based’ model (Claridge, 1994). This is favoured by psychiatry and fits with a medical model that views psychosis-like experiences as incomplete manifestations of psychosis. This differs from the fully continuous personality based perspective; in which psychotic-like traits are not just lesser signs of a disorder but actually exist within a ‘healthy’ personality. The majority of psychologists, accepting the dimensional approach to psychosis, support this perspective (Chapman, Chapman & Kwapil, 1995; Claridge, 1994; 1997; Claridge & Beech, 1995; Mason & Claridge, 2006; Mason, Claridge, & Jackson, 1995; Mason et al., 1997) and much of their work operates from within this theoretical framework. The underlying assumption is: *“that ordinary individuals, in their everyday behaviour, manifest characteristics such as*

self-centred thought, suspiciousness, assumptions of ill will or hostility, and even notions of conspiratorial intent that are reminiscent of paranoia” (Fenigstein & Vanable, 1992).

Support for the Continuum approach.

Despite various approaches to the continuum view of paranoia, each of these perspectives stands to present a challenge to some of the suppositions of the categorical approach to paranoid delusions (Ellett et al., 2013). Indeed, research across several fields, including phenomenological and epidemiological studies, developmental psychopathology and cognitive psychology (Freeman, Garety, Bebbington, Smith et al., 2005; Kaymaz & van Os, 2010; Linscott & van Os, 2010; van Os & Verdoux, 2003), present a convincing argument that paranoid beliefs are present within the general population and exist on a continuum within clinical to nonclinical populations (Bebbington et al., 2013; Chapman & Chapman, 1980; Ellett et al., 2003; Freeman et al., 2011; Strauss, 1969).

Further support for the continuum approach comes from criticisms raised around the categorical classification. First, findings that nonclinical symptoms are associated with an increased likelihood of being diagnosed with a psychiatric disorder (Eaton, Romanoski, Anthony, Nestadt, 1991; Van Os, Hanssen, Bijl, Ravelli, 2000) provide evidence consistent with the idea that clinical and non-clinical experiences are linked. In particular, Van Os et al. (2000) found that plausible symptoms, secondary symptoms, and non-clinically relevant symptoms were all very strongly associated with the presence of clinical symptoms. Similarly, Dominguez et al. (2011) found a dose-response relationship between persistent subclinical psychotic symptoms over a

three-year period and transition into psychosis five years later. Thus, whilst a proportion of individuals may experience paranoia that never reaches clinical intensity, it appears that for others, there is a continuum from mild to more severe experiences. Additionally, the high comorbidity of schizophrenia with other DSM-IV diagnoses (Fenton, 2001; Hanssen et al., 2003; Sirius, 1991) suggests the presence of common pathologies (Widinger & Samuel, 2005).

Moreover, epidemiological studies have demonstrated shared commonality between risk factors for nonclinical symptoms and those in clinical disorders; for example, age, sex, urbanicity and cannabis use (van Os, Linscott, Myin-Germeys, Delespaul & Krabbendam, 2009). Other factors include family and social functioning (Olsson et al., 2002), living alone, and depression (Myin-Germeys, Krabbendam & van Os 2003). With researchers presenting this as evidence of 'aetiological continuity'.

Researchers in the Netherlands have also demonstrated single associated psychological variables, such as theory of mind and attributional style, across a hypothesized positive symptom continuum (Janssen et al., 2006; Vermissen et al., 2008). Additionally, cognitive and affective variables that are implicated in formation and maintenance of paranoia in clinical samples appear to be implicated in the derivation of nonclinical paranoia. These factors include anxiety and worry (all concerning the theme of anticipation of threat) (Bebbington et al., 2013), self-esteem, depression, attributional biases and heightened public self-consciousness (Allen, Freeman, Johns & Maguire, 2006; Freeman et al., 2011). Also shown to be implicated in paranoia across the continuum are delusion-specific factors such as the conviction

of the belief, extent of preoccupation, and the intensity of the distress caused by the beliefs (Peters et al., 1999).

Such literature, demonstrating the multidimensionality of delusions, also suggests that the content of paranoid beliefs is distributed along a continuum and that changes can occur within an individual over time (Ellett et al., 2003; Hanssen, Bak, Bijl, Vollebergh & Os, 2003; Poulton et al., 2000). Recent exploration of these issues by Bebbington et al. (2013), has demonstrated further support for a non-reflexive relationship. This tallies with the idea that paranoid ideation is continuously distributed, with actual paranoid delusions being placed at the extreme end of the continuum. At a single point in time, the continuum is defined by differences between individuals located at individual positions on the curve. However, people are themselves likely to vary in a way that would place them at different positions on the curve at different times, dependent on changing circumstances. In a sense, they would move along the curve, a speculation now that has some support from longitudinal investigation (Poulton et al., 2000). Despite delusions initially being defined as fixed, they are not unchangeable, which challenges perspectives that they are qualitatively different from normal beliefs (Appelbaum, Robbins & Vesselinov, 2004; Kuipers et al., 1997; Sharp et al., 1996).

The most marked challenges to a dichotomous approach come from large bodies of evidence from prevalence studies, demonstrating high rates (of up to approximately 25% depending on the definitional criteria used) of paranoid thinking within the general population (Eaton et al., 1991; Freeman, Garety, Bebbington, Smith et al., 2005; Gallup & Newport, 1991; Kendler, Gallagher, Abelson & Kessler, 1996;

Lincoln, 2007; Peters et al., 1999; Peters, Joseph, Day & Garety, 2004; Tien, 1991; van Os et al., 2000). This high prevalence is perhaps unsurprising if paranoia arises from the normal everyday decision making about whether to trust or mistrust (Freeman et al., 2011). Taking this, and the volume of other evidence into consideration, the overall view seems to be that complete discontinuity between clinical and nonclinical experiences is unlikely. The symptom features of psychosis map so accurately on to the domain of nonclinical individual differences that the validity of the dimensional model of the disorder is no longer in doubt (Bebbington et al., 2013; Claridge, 1994; Freeman, 2007; Garety et al., 1988; Garety & Hemsley, 1994; Kendler et al., 1983). This shift in support of a continuum view has also been reflected in more recent classification systems (e.g. DSM-V, APA 2013) that acknowledge psychosis symptoms are on a continuum with normal mental states (Allardyce, Suppes & van Os, 2007).

Although the continuum hypothesis has gained substantial recognition and empirical support (van Os et al., 2009), it is important to be mindful that the broad notion of continuity is deceptively over-simplistic and substantial work is required to understand these ideas more fully (Lawrie, Hall, McIntosh, Owens & Johnstone, 2010). There are still areas needing further clarification. Specifically, David (2010) proposes that there are questions around how phenomena are elicited in these studies, which impact upon the nature of what is obtained and how large the proportion of those experiencing the phenomena will turn out to be. For example, psychometric methods often used in psychology, especially composite 'severity scales' may inevitably lead to continua rather than remaining open to uncover potential categories (David, 2010). Hence, methodological issues can exert a large effect on whether one

is led to conclude that psychosis-like symptoms are common or rare in the population in question.

In addition to this, the exact nature of a paranoia continuum still remains to be established. Important questions that persist include: what is the nature of the relationship between clinical and nonclinical paranoia (Claridge, 1994)? Are common psychological processes implicated in the emergence of paranoid cognitions in both populations? What prompts clinically meaningful transitions along the continuum (van Os et al., 2009)? And what prevents paranoid-like cognitions developing into clinical experiences of paranoia? Further investigation of the potential differences in content of clinical and nonclinical paranoid beliefs is also required (Freeman, Garety, & Kuipers, 2001), as well as examining differences between clinical and nonclinical groups, other than their levels of belief conviction, preoccupation, distress (Freeman et al., 2010), affective components (Freeman et al., 2011), or interpersonal sensitivity (Bebbington et al., 2013).

Overall, the research to date is broadly supportive of the idea that paranoia exists in an attenuated form in the nonclinical population. An important implication is that nonclinical samples provide an accessible means of investigating paranoid-like experiences. This is important and demonstrates the potential of lay paranoia to further inform our understanding and treatment of paranoia in clinical samples. The evidence and reasoning around why it is important to better understand such conceptions of paranoia will now be elaborated on.

1.3 Why Is It Important to Understand Lay Conceptions of Paranoia?

This section develops the rationale for exploring lay conceptions of paranoia, considering the prevalence of the term versus the current lack of understanding, flaws in current definitions, possible positive functions of paranoia not currently captured by definitions, disagreement about whether experiences of paranoia have to be false, and implications for the measurement of paranoia.

Prevalence versus lack of empirical and theoretical understanding.

There is a growing body of evidence that paranoia is widespread and that the concept firmly has a place in contemporary western culture. The prevalence of paranoia in everyday life (Ellett et al., 2003; Ellett et al., 2013; Freeman, 2008;) itself warrants further examination. With a move towards continuum views of psychiatric disorders, the importance of collaboration on the meaning of paranoia, including lay perspectives, has been emphasised. Although different manifestations of paranoia have been written about at length, there is an absence of psychological research that examines individuals' conceptualisations of paranoia itself. This is an important gap in the paranoia literature because there are a number of ways in which lay conceptions of paranoia are likely to inform not only theory and research about paranoia, but also paranoia in therapeutic settings. As the concept of paranoia is receiving increasing scholarly attention across a number of different fields, it is now pertinent to obtain theoretical and empirical clarification.

Flaws in the current definition now that the term has moved into people's everyday vernacular.

Despite literature attempting to theoretically explain, understand and normalise paranoia (Freeman & Garety, 2000), empirical research on this important social phenomenon is yet to examine how individuals within the general population define and conceptualise paranoia. This is needed to reflect the construct's broad societal and cultural significance. Although the term 'paranoia' has moved into the lexicon of everyday language the bulk of the literature characterises paranoia as part of a clinical disorder. The conceptualisation of paranoia as a disorder of a pathological individual ignores the vast social influence the concept of paranoia now has. Additionally, theoretical models, despite implying unique difference between nonclinical and clinical paranoia, do not always distinguish between the two. Thus, the occurrences of normal individuals engaging in ideational distortions are frequently described within the normal population as 'paranoid'. The term has taken on meaning that is apparently independent of any indication of clinical disturbance, yet the content of the cultural lexicon of paranoia is not empirically defined.

Possible positive functions not captured by current definitions.

The focus on the destructive nature of paranoia has made it difficult to acknowledge how degrees of suspicion and mistrust may actually be adaptive and functional. Ellett et al. (2003) were the first to suggest that an evolutionary perspective may provide an explanatory framework, a theory that has now garnered considerable support (Bebbington et al., 2013; Kelleher, Jenner & Cannon, 2010; Preti & Cella, 2010). Ellett et al. (2003) proposed from an evolutionary perspective that paranoia is a trait that was selected and distributed in humans due to its adaptive value. This perspective

has been further supported by literature acknowledging that paranoia has valuable, appropriate characteristics in certain situations that can become excessive, just like anxious thoughts (Ellett & Chadwick, 2007). Without denying the fact that paranoia can be both dysfunctional and distressing, it is now suggested that there are several situations in which paranoia could be an adaptive trait.

In evolutionary terms, it is useful to detect threats to self from potentially harmful others, using a 'better safe than sorry' conditional rule which could be critical for survival (Bebbington, 2002; Ellett et al., 2003; Freeman, 2007; Freeman, Garety, Bebbington, Slater et al., 2005; Gilbert, Boxall, Cheung, & Irons, 2005). Whether to trust or mistrust is a judgement that lies at the heart of social interactions (Freeman, 2007) and individuals who are trusting, open, and never suspicious of the intentions of others may end up as naïve objects of exploitation (Bebbington et al., 2013; Ellett et al., 2003). This type of suspicion is ubiquitous in everyday life and can help us to understand the actions of others by speculating on intentions or motives (Harper, 1999). For example, suspicious accounts are common in forms of gossip (Emler, 1992; Rosnow & Fine, 1976). In this respect, paranoia is an important cultural resource, which has a number of wide-ranging effects, for example, providing a location in which the subject can be positioned by others as 'paranoid' and in which the subject can position him or herself as knowing what is really going on (Smail, 1993). Literature on this topic suggests that rather than bizarre or dysfunctional behaviours, conceptions of paranoia should in fact recognise the possibility of it being an understandable and even appropriate response to particularly toxic combinations of social trajectories and life events.

The possible positive functions of paranoia have been much more acknowledged outside of empirical psychology research, particularly within popular culture (Freedman, 1984; Parker, 1996; Sutin, 1995), where varying accounts of paranoia have contributed to the embeddedness of conspiratorial narratives within modern culture. There is a whole tradition of suspicious interpretation that does not necessarily attract pathologising of others. For example, novelists' representations of the construct have fostered this notion and embodied the idea that in a time where we are saturated by information, 'cultural paranoia' becomes the means by which connections are forged and can be seen as the binding force of some communities (O'Donnell, 1992). O'Donnell (1992) writes:

“What brings people together, as it were, is the sense that they are the wary participants in an unfolding historical plot over which they have no control, but through which they gain visible identity as historically unified subjects...paradoxically, she is empowered as one in a growing army capable of reading the signs of these plots and power relations not to resist or escape them but to formulate an ironic streetwise attitude toward them. One knows she is part of a series of orchestrated events over which she has no control, but knowing it confers a kind of legitimacy upon the knower” (p. 184).

In fact it could also be argued that, as well as being useful and binding, suspicion is necessary within certain professions (e.g. the police force or security services) and movements. Political writers have demonstrated how conspiratorial stances have helped mobilise political groups (Billig, 1991; Hofstadter, 1966). This broad view sees paranoid discourse as one used not only by supposedly 'abnormal' or

pathological individuals but by all members of society. Yet within psychology literature the lack of lay conceptualisations and the existence of the psychiatric category of paranoia leads to the excluding and dividing practices of groups of individuals. This has meant that the potential positive functions of paranoia are not reflected or captured by current definitions. Therefore, it is perhaps overdue for research to examine whether the state of paranoia should continue to be characterised as predominately negative. Similarly, the nature of current definitions and lack of lay conceptions means paranoia is presented as a largely false experience.

Disagreement in the literature around whether the experience has to be false.

Traditional definitions of paranoia have viewed falsity as a key defining feature of the construct. Therefore, establishing a clinical definition of paranoia has been historically complicated by the need to determine a set of criteria with which to judge falsity (Freeman, 2008). However, as theories have developed, the focus has shifted to understanding the multi-dimensional aspects of paranoid experiences. This suggests that no single criteria signals delusionalality (Freeman, 2007), but that delusions are complex experiences.

Despite this change, theoretical disagreement exists on whether an experience has to be false in order for it to be defined as paranoia (as in the everyday phrase ‘just because you’re paranoid, doesn’t mean they’re not out to get you’). This presents a problem in operational accounts of paranoia, as it is difficult to reliably assess the accuracy of paranoid thoughts (Freeman, 2008). This is particularly challenging within nonclinical populations, as such judgements can seem easier in clinical cases

where the content is (sometimes) implausible; however this becomes much more difficult lower down the continuum (Freeman et al., 2010). Delusional beliefs can range from the obviously impossible to the more plausible. Therefore, the ability to reliably identify an unfounded persecutory belief is highly dependent on the content of that belief and as such is variable and often unclear (Ellett et al., 2013). Spitzer (1992) argues, that a delusion is not a delusion because it is a false statement but because it is a statement made in an inappropriate context and, most importantly with inappropriate justification. This proposes that the inappropriateness of an individual's behaviour, rather than the inaccuracy of a belief, could be used to assess its delusional nature (Fennig, Fochtmann & Bromet, 2005). However, at present the literature does not provide a conclusive argument. Developing a lay definition would inform this debate given the heterogeneity and complexity of factors involved. Lay definitions would enable agreement on a common language, they may also allow us to describe and access the construct of these beliefs in question and enable 'abnormal' and 'delusional' beliefs to be understood as arising not simply from damaged biological mechanisms or from information processing modules, but from cognitive beings firmly situated within their social setting (Bell, Halligan & Ellis, 2006). Such an approach might also better allow us to treat service users with distressing beliefs, as well as provide clearer insight into how each of us comes to hold our own beliefs.

Implications for the measurement of paranoia.

Understanding lay conceptions of paranoia may also have important implications for the measurement of paranoia. Despite significant developments in the understanding of paranoia, many existing studies around nonclinical paranoia present with methodological drawbacks (Freeman et al., 2008), such as the inability of

questionnaire assessments of paranoia to rule out that paranoid thoughts are grounded in reality (Freeman, 2008), or interview methods to establish the truth of the claims underlying a suspicious thought. Discrepancies also exist between accounts of paranoia itself (Freeman & Garety, 2004) and have a tendency to ignore the multi-dimensional nature of the experience (Freeman, 2007). This means it is unclear what exactly is being measured – is it a phenomenon that is dimensional with clinical paranoia or is it a reasonable response to features of an experimental setting? Some of these limitations exist in part due to the lack of clarity and coherence around the definition itself. Either a universal definition that is able to accommodate such variance is required, or a set of related but distinguishable terms that punctuate meaningful points along the paranoia continuum. In the absence of the former, the latter has informally arisen. An informal classification system can be traced within the paranoia literature, in which terms such as paranoid or paranoid-like cognitions/thoughts/ideation are often used to refer to nonclinical experiences. However, these terms have not been defined and there is no consensus as to how they relate to, and are distinguishable from, one another (Freeman, 2007) or how individuals themselves interpret such constructs.

As currently no obvious alternative successfully captures the mode of thought and perception that is often under investigation, *paranoia* is used despite its unintended clinical implications. Thus, research ends up using a term not necessarily truly representative of people's experiences. Developing a lay definition of paranoia would be generative, by enabling investigators to study paranoia with an empirically informed representative definition. This would allow future research to clarify manipulation and measurement of paranoia, providing significant methodological

advantages. Understanding how people outside of the research community conceptualise and experience paranoia may also help researchers develop improved psychoeducational and therapeutic techniques.

1.4 What Do We Already Know About Lay Conceptions Of Paranoia?

The pervasiveness of paranoia has firmly been established over recent years. Once paranoia is conceived as on a continuum, its importance at both an individual and a societal level becomes increasingly apparent. The term paranoia has become part of people's everyday vernacular. Research itself has also begun to free paranoia from its earlier associations, and view the concept as a phenomenon to be explained in its own right, linking it more specifically with suspicious thoughts apparent within the general population (Bentall, Kinderman & Kaney, 1994; Trower & Chadwick, 1995). This shift in research emphasis has been productive (Bentall, Corcoran, Howard, Blackwood, & Kinderman, 2001) and fits with theoretical models that have begun to treat paranoia as having different dimensions, rather than as a homogeneous diagnostic category (Chadwick, Birchwood & Trower, 1996; Chadwick & Lowe, 1990). This has brought paranoia into the realm of normal human experience and begun to influence clinical practice. A normalising approach is now common in Cognitive Behavioural Therapy for Psychosis (CBT-P; Fowler, Garety, & Kuipers, 1995; Kingdon & Turkington, 1994; Sensky, Turkington, Kingdon, Scott, Scott, et al., 2000) and has been shown in empirical trials to help individuals with psychosis (e.g., Kingdon & Turkington, 1991; Kingdon & Turkington, 1994). Despite paranoia being deemed as 'a normal human experience' a coherent and consistent approach to understanding lay conceptions of paranoia is still lacking. In support of this, database

searches through Psychinfo, Psycharticles, PubPsych, Google Scholar and Web of Science, using the search criteria ‘paranoia, paranoid cognitions, paranoid-like cognitions, persecutory delusions, lay paranoia, nonclinical paranoia’ have revealed no literature around the content of the cultural lexicon of paranoia. There has therefore been a need highlighted to explore the meaning of such experiences from an experiential perspective (May, Hartley & Knight, 2003).

Societal conceptions of paranoia.

Lay conceptualisations of paranoia, not as a psychiatric disorder; have been widely explored within the social sciences, philosophy and the arts. The work of writers, including crime and spy authors, has contributed to both conspiratorial and surveillance-aware narratives being embedded within modern culture (Parker, 1996; Sutin, 1995). The concept of paranoia firmly has a place in contemporary western culture, with different manifestations of paranoia being written about at length. Discussion in the last ten years has particularly focused on increased feelings of paranoia within our societies (Freeman & Freeman, 2008) and different authors have evidenced a rise of so-called ‘cultural paranoia’ (O’Donnell, 1992).

There are several technological and societal issues that point to a likely rise in a paranoia culture. These include an increase in our awareness of the ways in which populations are surveyed by police and law enforcement agencies (Harper, 2008); higher mortality rates (Kawachi, Kennedy, Lochner & Prothrow-Stith, 1997); urbanisation; migration; social isolation; income inequalities; and the tendency of the media to highlight the sensational and frightening (Freeman & Freeman, 2008). All of these factors can raise levels of fear and anxiety, preparing ground for paranoia to

thrive. Decreased levels of trust have also been shown to be a likely indicator of the health of a society and have been shown to be a central component of both social cohesion and social capital (Coleman, 1988; Putnam, 1995). Such studies extend the significance of paranoid thinking beyond the psychiatric domain and highlight how studying lay perspectives in these milder variants of paranoia, such as mistrust and suspicion, could shed light on societal issues, such as individual well being and social cohesion.

Now that persecutory ideation is conceived as on a continuum, its importance at all levels becomes ostensible (Rose, 1989). It is becoming increasingly apparent that concepts like paranoia serve both as psychiatric and everyday explanatory categories. Investigation therefore needs to be inter-disciplinary and take into account different conceptualisations. Current conceptions however are inherently dualistic (Harper, 2008), viewing paranoia solely at an individual level or, alternatively, solely at a societal level. Inevitably, either perspective in isolation is limited and it perhaps now makes more sense to see conceptions of paranoia as both a position and a narrative. Having a greater understanding of lay conceptions of paranoia could help bridge this dichotomy.

Existing lay perspectives within clinical populations.

Qualitative research has played an important role in elucidating lay perspectives of psychosis within clinical populations and there has recently been an increase in the number of such studies. Literature has begun to capture the psychosocial nature of clinical paranoia and gain an understanding of the service users' reality through their use of language. The body of literature is qualitative and largely employs grounded

theory methods of analysis (e.g. Boyd & Gumley, 2007; Carrick, Mitchell, Powell, & Lloyd, 2004; Hirschfield, Smith, Trower, & Griffin, 2005; McNally & Goldberg, 1997), as well as including some experiential accounts (Chadwick, 1993). McCarthy-Jones et al. (2013) have attempted to draw together the findings of these studies by performing a meta-synthesis of inductive qualitative research into psychosis. Ninety-seven articles were identified for systematic appraisal. Themes that emerged across the literature included core processes such as fear and vulnerability; a sense of loss (including loss of basic human needs such as sleep, physical and financial security, relationships, self-esteem, hope); identifying a need for help; rebuilding or re-forging; and 'gifts' from psychosis. Subthemes including confusion, uncertainty and, people's sense of self-being under attack were identified. The literature also describes how these experiences lead to individuals engaging with their safety systems and how all of these factors interact to create a complex and dynamic experience of paranoia (McCarthy-Jones et al., 2013). Additionally, what arose from several of the studies was a view of paranoia as a mechanism of keeping oneself safe in dangerous situations (Boyd & Gumley, 2007), matching theoretical conceptions of paranoia being an adaptive trait (Ellett et al., 2003).

By acknowledging service user perspectives such research has further demonstrated how the experience of clinical paranoia is much more than simply just delusions. Unlike early psychiatric approaches or symptom-based approaches in cognitive psychology (Bentall, 2013) these studies describe personal experiences relating to psychosis and clinical paranoia. Such literature facilitates a move in clinical theory and practice to a more person-based model (Chadwick et al., 1996). Despite the sample sizes being small, thereby making the findings less generalisable and harder to

make systematic comparisons from, these studies support a move towards understanding individuals within their own terms of reference and acknowledging their personal histories. As many of these studies employed grounded theory methods of qualitative analysis, some attempts have been made to construct theory from a service user or 'lay' perspective. However, the sole focus has been within clinical populations, with many studies focusing on the journey to recovery rather than the explicit experience of paranoia itself. Whilst these studies are informative, their findings do not necessarily directly translate to the general population. Furthermore, most research into paranoia has relied on predetermined testable hypotheses from existing researcher's theories (Popper, 1969); there is now a need to construct theory from a lay perspective.

Possible commonalities between lay and professional views.

It is possible that there may be a great deal of commonality between lay, service user, societal and professional views, however, as has been shown with other concepts the relationship can be a dialectical and interactive one. For example, the dominant psychiatric discourse has been represented within lay views (Gleeson, 1991). The effects of each of these perspectives depend on the position of the discourse user and the power of a particular account. Harper (1999) describes how, "*in western culture, paranoia, as a short-hand description of madness, serves as a way of marking out and 'cutting out' those we consider to be off, whose behaviour can no longer be seen to be explicable to normal social rules*". However without exploration of lay perspectives, these explanations cannot be assumed, particularly as such narratives have the potential effect of marking someone out as different. Such discussion has highlighted the need for lay discourses to be examined in more detail.

Engaging in lay perspectives of paranoia would provide credibility to the view that there exists a multiplicity of valid explanations for such experiences, which encompass not only the medical but also a variety of other standpoints. The acknowledgement of lay perspectives of paranoia would enable a reclaiming of an individual's identities within an experience, previously only defined by professional discourse. To date, a coherent and consistent approach to understanding lay conceptions of paranoia is lacking. In particular, researchers are yet to understand what people mean when they refer to 'paranoia' in everyday social situations (for example, using phrases such as 'you're just being paranoid' or 'don't be paranoid'). It is now vital that researchers seek to understand how people themselves conceptualise and view paranoia, including its affective and cognitive components as well as its contextual elements, to uncover whether lay views correspond with experts' constructions. The studies presented in this thesis focus on understanding lay conceptions of paranoia.

1.5 What Can A Prototype Approach Add?

Lay conceptions of paranoia have thus far eluded explicit definition. We propose that, despite the apparent complexity of paranoia, lay conceptions may be best represented in terms of a prototype. Prototype theory is a mode of graded categorisation, where some members of a category are more central than others (Rosch, 1975).

Understanding lay conceptions of paranoia in this way has the potential to contribute to the advancement of paranoia in both research and therapeutic settings.

Prototype Theory.

Clarifying the properties of a construct is a vital and often neglected step in the research process (Rozin, 2009). One robust way to develop a good lay definition of a psychological construct is through the use of prototype theory and methodology (Rosch, 1975). Rosch (1975) was the first to distinguish prototype theory within the field of Psycholinguistic research and the theory's development brought existing theories, such as the classical view (Markman, 1989), into question.

The classical view of defining concepts assumes category membership is an all or none phenomenon; any instance that meets the criteria is a member and all others are not (Kearns & Fincham, 2004). Since each member must possess the same set of attributes that is the criterion for category inclusion, all members of a category are assumed to be equally representative. For example, when we consider a square, it's necessary and sufficient features include it being a closed flat figure, having four sides, all sides being equal in length and all interior angles being equal. Although initially the classical approach was well supported (Armstrong, Gleitman, & Gleitman, 1983; Harnad, 1987), considerable research reinforced growing scepticism over its plausibility as an adequate explanation of most concepts used in everyday speech (Kearns & Fincham, 2004; Fox, 2011; Medin, 1989; Mervis & Rosch, 1981).

Rosch (1975) argued that many natural language concepts do not lend themselves to this classical definition, in terms of having a set of necessary or sufficient conditions. Instead she proposed that many natural language categories have an internal structure, meaning that some features of a category are more strongly associated (prototypical) with the concept than others. To demonstrate this, Rosch (1975) gives the example of

an animal being more likely to be categorised as a bird if it is similar to a prototypical bird (e.g. a Swallow) than if it is similar to a non-prototypical exemplar (e.g. a Penguin). The prototype approach differs from the classical approach in that it involves flagging central features rather than identifying critical features. This means that not all instances of a concept are expected to share all of the features of the prototype. Instead, prototype categories are typically made up of distributions of attributes and some instances of categories are considered more 'typical', or central, members of the category than others; this then appears to guide classification and recognition of instances (Rosch, 1973).

Rosch (1975) defined a hierarchy of categories within prototype theory, which includes superordinate, basic and subordinate categories. Basic categories are the largest class of which we can form a fairly concrete image (e.g. a chair), subordinate categories are collections of basic categories (e.g. furniture, includes chairs) and subordinate categories represent divisions of basic classes (e.g. deck chair, stool). Rosch stated that the functional purpose of categories was "to provide maximum information with the least cognitive effort" (p. 27). Although all categories are fuzzy in nature, members of a language group maintain communication by rounding them off to their core, specifically to their most common prototypes. When it comes to the emotion domain, some emotions can be properly defined (e.g. happiness, sadness, fear, anger), whereas other natural language categories of emotion are more ambiguous. Borders between such categories are vague, rather than clear-cut; membership within a category is a matter of degree rather than all or none; and different categories tend to overlap one another rather than be mutually exclusive. Therefore, prototypical emotions shade into less prototypical emotions, which then

shade into non-emotions. There is no distinct boundary to be found (Russell, 1991). In line with the idea that membership in a category is determined by resemblance, which can be ambiguous, this approach better fits complex and often unclear concepts of human experiences. This is an approach that appears to fit well with the apparent heterogeneity of available descriptions of paranoia.

Rosch (1975) proposed two criteria that must be met for a concept to be defined as prototypically organised. First, individuals must be able to identify the features of the concept and make meaningful judgements about the strength of the feature's relationship with the concept. Second, the centrality of features should affect cognition with respect to that concept. That is to say that the prototype is activated (to a greater or lesser extent) when an individual encounters a word or phrase that (more or less) resembles the construct. The prototype is subsequently used to guide information processing (e.g., speed of processing, interpretation, use of category names in language and memory); (Mervis & Rosch, 1981; Rosch, 1978; Russell & Fehr, 1989).

The rigour versus coverage debate.

When endeavouring to develop a good theoretical definition of a psychological phenomenon, a compromise is needed between rigour and coverage—between the exactitude of scientific constructs and the breadth of everyday concepts (Gregg, Hart, Sedikides, & Kumashiro, 2008). Lay definitions lack scientific rigour, as they are not based on empirical evidence, do not fit a theoretical framework, and are not easily operationalised. This is in comparison with scholarly definitions that lack coverage (Hepper, Ritcher, Sedikides, & Wildschut, 2011), as they do not comprehensively

capture the construct or reflect the diversity of people's experiences. As discussed, there are flaws in current definitions of paranoia offered by scientific scholars. Existing medical diagnostic criteria and theoretical definitions could be criticised for overly prioritising rigour over coverage (e.g. Freeman & Garety, 2000). In order to improve the definitional coverage of the construct investigation is needed into what people generally understand by the term paranoia. A prototype approach to clarifying paranoia can address many of these challenges. Possessing a clear picture of a construct's prototype allows researchers to predict and understand how people respond in more or less prototypical situations. The prototype also includes the diverse range of more or less representative elements involved (Rosch, 1975). It therefore allows for a scientifically testable yet comprehensively rich understanding of lay views of a construct.

Strengths of prototype approach.

As discussed, one of the main competitors to prototype theory is the classical model of concepts. However despite centuries of effort, the classical approach has yet to yield commonly agreed upon definitions for human experiences, such as emotions (Russell, 1991). This is a perspective that has now been endorsed by much psychological research (Fehr & Russell, 1991; Fitness & Fletcher, 1993; Kearns & Fincham, 2004; Lambert, Graham, & Fincham, 2009; Mervis & Rosch, 1981; Smith & Medin, 1981). Rosch's developments proposed that concepts are not only inherently vague but vary from person to person and, for the same person, from one time or context to the next (Barsalou, 1987). Studies have shown that non-distinct boundaries and varying degrees of category resemblances better reflect the way that laypeople represent concepts such as emotions (Fehr & Russell, 1984; Shaver,

Schwartz, Kirson, & O'Connor, 1987). Indeed, the prototype approach has given us much insight into characterising people's complex beliefs about domains of persons and social situations (Cantor & Mischel, 1979); psychiatric classifications (Cantor, Smith, French, & Mezzich, 1980); personality dimensions (Cantor & Mischel, 1977); and emotions (Fehr, 1982; Fehr & Russell, 1984; Russell & Bullock, 1986), including emotional states such as forgiveness (Kearns & Fincham, 2004), love (Fehr, 1988) and gratitude (Morgan, Gulliford & Kristjansson, 2014). Within each of these studies a set of central and peripheral features of each emotion, based on lay conceptions, were identified. Additional merits of this approach include it being both systematic and flexible, as it is seen to be adaptable to social knowledge in a way that remains qualitatively faithful to the language and thoughts of lay individuals, whilst providing quantitative characterisations of categories (Cantor & Mischel, 1979). Prototype theory captures the complex, changing stimuli of people's perspectives. The prototype theory has accounted for a variety of psychological phenomena and has helped in explaining why some definitions may be so hard to produce. However, prototype theory has also been the subject of some debate (Armstrong et al., 1983; Harnad, 1987; Lysak, Rule, & Dobbs, 1989), which will be outlined.

Challenges to the prototype approach.

Specific criticisms of the prototype approach to the study of emotion concepts have been raised. It has been suggested that perhaps the theory cannot be as simplistic as Rosch initially proposed (Clore & Ortony, 1988; Johnson-Laird & Oatley, 1989) and that there is often a lack of clarity about the precise definition of 'prototype'. As Murphy (2002) highlights, "*many statements about prototypes in the literature are somewhat vague, making it unclear exactly what the writer is referring to*" (p. 45). At

times, proposed models of prototype theory are criticised for not being detailed enough about the prototypes themselves (Armstrong et al., 1983). This lack of specificity can mean that throughout the literature categories adopt an idiosyncratic range of critical features. Decisions about the number and type of features to be included in the prototype are by no means straightforward and although certain features appear to be more central than others, it has often proven difficult to establish which ones take priority when we make decisions about category membership. Some argue that the treatment of categorisation in prototype theory works best only for quick unreflective judgements and that for more reflective judgements, people go beyond the outcome of a similarity comparison (Gelman, 2003).

Another criticism of a prototypic structure concerns compositionality. When a more complex concept has a prototype structure, it often has emergent properties, which are ones that might not derive from the prototypes of its constituents. One proposed solution to this states that a prototype could constitute just part of the structure of a concept and that concepts have conceptual ‘cores’ which specify the information relevant to more considered judgements and which underwrite compositional processes (Fodor & Lepore, 1996).

The process around categorisation of concepts is a complex one and there remains to be some methodological questions around different definitional theories. These questions within the literature mean often the true structure of concepts acquired by current techniques remain unknown. Armstrong et al. (1983) suggest that perhaps this indicates that there is not a ‘general theory’ of categorisation that will subsume and therefore explain all different domains of a concept. When considering such

approaches within emotion concepts, Clore and Ortony (1988) write, “*the goal must not be to define emotion words, but to discover the structure of the psychological conditions to which such words apply*”(p. 367). Therefore, what they suggest are being uncovered within prototype approaches are not necessarily new concepts of emotions, but explications of what is assumed to be inherent in the existing meanings of emotion terms (Clore & Ortony, 1988). Fox (2011) furthers this argument by explaining that a prototype might be either a ‘paragon’ or an ‘average’ member of the group, and the prototype differs between individuals and moments, making it contextually variant. A concept might also contain multiple prototypes. The prototype anchors the ideational content of the concept, but does not exclude variants, nor does it deem difference as deviant (Fox, 2011). According to prototype theory, perception truly is reality. This means that prototypical definitions rely heavily on context and are significantly subject to social flux. Despite being a potential criticism of the approach, this also means prototype analysis is particularly applicable to lay definitions, including that of the social construction of paranoia. Lay conceptions of paranoia, imagined using prototype theory as a theoretical framework, provide structural flexibility and inclusiveness to a concept likely to be highly heterogeneous. Therefore they provide a prototype that has the potential to be complementary to other existing definitions.

Why a prototype approach for paranoia?

It is arguable that everything can be conceptualised as a prototype, but this by itself does not make prototype analysis a worthwhile or worthless pursuit (Seuntjens, Zeelenberg, Breugelmans & Ven, 2015). In the case of paranoia we think a prototype analysis is particularly useful; not because we want to show that paranoia has a

prototype structure, but rather to find what that structure is. To support a prototype view over the classical view is not to say that the concept of paranoia cannot be defined, nor does it suggest that lay conceptions of paranoia must map onto experts' conceptions. Rather, it proposes that concepts are systematic and orderly and can be organised along different lines than those assumed by the classical view. Additionally, it suggests that lay conceptions should be taken account of, and that utilising prototype theory to understand lay conceptions can support advances in the scientific study of paranoia. The prototype approach offers a conceptual and methodological framework to characterise knowledge of paranoia within the general population.

Despite the prototype approach being the subject of debate, a more holistic understanding of experiences such as paranoia has been argued for. There is need for an approach that not only takes into account the multidimensionality of paranoia, but also experiential perspectives across the continuum. The failure to compile a definition representative of lay paranoia suggests that researchers are unsure of what to include and what not to include in the definition. When viewed from the prototype perspective, this inability to come to a consensus makes sense. It is possible that lay conceptions of paranoia, similar to many other natural language concepts, do not lend themselves to definition in terms of a set of necessary and sufficient critical features, but can be conceptualised as an indistinct category (Rosch, 1978). Defining paranoia as positive or negative, whether pathological or not, is over simplistic. This is further demonstrated by the fact that researchers and clinicians have recognised degrees of paranoia. Moreover, a particular experience does not qualify as either paranoid or not paranoid, but some experiences are more representative of paranoia than others. In short, we propose that, despite the seemingly inherent complexity and

multidimensionality of paranoia, lay conceptions are best represented in terms of a prototype.

Like other emotions we expect the paranoia prototype to contain a range of features: affective, cognitive, behavioural and contextual. Based in particular on the literature review (Campbell, 1990; Ellett et al., 2013; Ellett & Chadwick, 2007; Freeman & Garety, 2003) it is expected that the paranoia prototype may represent threat, anxiety, self-focused attention and possibly some functional features. Developing a prototype analysis of paranoia will benefit both research and clinical fields. For the first time a definition will be provided that balances both scientific rigour with comprehensive coverage, facilitating understanding of paranoia's nature, functions and context.

Understanding the nature and structure of lay conceptions of paranoia will compel scholars to integrate it more systematically into a wide range of research by identifying commonalities and differences. Additionally, it will allow future research to clarify manipulation and measurement of paranoia, providing methodological advantages and enabling future research to manipulate or measure paranoia using prototypic features. This will provide participants with a collection of layperson-accessible features of paranoia instead of the word 'paranoia' which could reduce demand characteristics and facilitate the study of paranoia in different populations. Finally, such advances could contribute to the design of therapeutic interventions, allowing clinicians to consider variation in individual conceptions, thereby adapting interventions to focus on the most relevant and helpful elements of paranoia.

1.6 Thesis plan and aims of the project

This thesis will examine lay conceptions of paranoia in order to develop and validate a prototype of the construct and thereby understand how individuals themselves define and conceptualise paranoia. The project reports the findings of two studies, which are briefly introduced below.

The first empirical chapter contains a two-part study, aiming to address the question around whether lay views of paranoia have a prototype structure, characterised by a core set of central and peripheral features. Consistent with prototype methodology (Gregg et al., 2008; Hepper et al., 2011; Seuntjens et al., 2015) the first part is questionnaire-based, and aims to develop the prototype by generating features of paranoia drawn from laypeople's conceptions (1a). Centrality ratings will then be solicited (1b), which will be used to classify features as either central or peripheral to the paranoia prototype. Consistent with previous research (Gregg et al., 2008; Hassebrauck, 1997; Hepper et al., 2011; Kearns & Fincham, 2004), this will generate a pool of central (above the median) and peripheral (below the median) paranoia categories for use in the second part of the project.

The second part (Study 2) presents the first steps involved in testing and validating the prototype and is specifically aimed at addressing the question of whether the paranoia prototype is used to guide information processing. Questions regarding the influence of feature centrality on free (uncued) recall and (cued) recall for features generated in Study 1 are addressed. Prototype theory (Cantor & Mischel, 1977; Rosch, 1978) proposes that central features are more readily encoded than peripheral ones, and so are more accessible in memory. Additionally, false recognition of central

features is more likely than peripheral features. It was therefore hypothesised that categories rated as central would be more readily encoded and retrieved than categories rated as peripheral to paranoia. The three hypotheses for Study 2 are listed below.

Hypothesis 1): Significantly more central than peripheral features will be freely recalled.

Hypothesis 2): Participants will recognise significantly more central than peripheral features.

Hypothesis 3): Participants will falsely recognise significantly more central than peripheral features.

Chapter 2: Method

The method section is divided into three parts. This includes, Study 1a and 1b, which focus on developing the paranoia prototype and Study 2, which concerns validating the prototype. Within each of these studies the study design, a description of participants who formed the sample, justification for the sample size and recruitment strategies employed, are outlined. Full details of each study procedure are provided. Lastly, the ethical considerations and service user involvement in the project are discussed.

2.1 Study 1a

Design

Study 1a used a one group cross-sectional design to generate a pool of prototypical features of paranoia.

Participants

Sample

The sample ($N = 204$) consisted of 140 females (69%) and 64 males (31%), with a mean age = 23.3 years (standard deviation (SD) = 9.21 years, Range = 18 – 56 years old), their ethnicity was made up of 88% White British, 1% Hispanic/Latino, 2% Black African/Caribbean, 4% Asian, 2.5% Multiracial, and 2.5% Other. University students made up 75% of the sample; the remaining 25% were lay people from the general population.

Participant inclusion criteria were people between the ages of 18-65 years old.

Exclusion criteria were people that were non-English speaking, had an organic brain disorder or intellectual disability and were unable to provide informed consent.

To ascertain a suitable number of participants for Study 1a comparable research using prototype theory (Hepper et al., 2011, Lambert et al., 2009; Xu, Farver, Yang, Zeng, 2008) was considered. Such studies included samples ranging from 94-171 participants.

Recruitment

English-speaking undergraduate and postgraduate university students were recruited via the electronic 'campus noticeboard' intranet facility, as well as individuals from the general population recruited via convenience sampling (Barker, Pistrang & Elliot, 2003).

Measures

Socio-demographic information.

All participants were asked about their age, gender, ethnicity and their employment status. A copy of the socio-demographic questions asked can be found in Appendix 1.

Procedure

The raw data for this part of the study had been collected by a research assistant but not analysed prior to the project commencing. All participants attended the study, which took place at Royal Holloway University, within working hours. Only one participant could take part at any one time.

Participants first read the information sheet (Appendix 2), highlighting the aims of the study. They were then asked to consent to taking part in the study and had the opportunity to ask questions before providing written consent to participate (Appendix 2). Participants were informed of their right to withdraw prior to taking part and that their data would not be uploaded to the secure database if they did not wish it to be. Participants were then asked to complete a number of socio-demographic details (Appendix 1). Next, participants were given five minutes to list features and characteristics that, in their opinion, best described and distinguished paranoia (Appendix 3).

Then participants were thanked and provided with a debriefing sheet reminding them of their right to withdraw and reiterating sources of support available should participants feel worse for having taken part in the study.

Generating the paranoia prototype.

The features collected needed to be organised and coded into categories to be used in subsequent stimulus materials. To achieve this, previous prototype approaches to emotion concepts (e.g. nostalgia (Hepper et al., 2011); relational boredom (Harasymchuk & Fehr, 2012); love (Fehr, 1988); forgiveness (Kearns & Fincham, 2004)) have employed a wide range of different thematic processes. However, an elemental process shared across the literature is ‘thematising meanings’ (Holloway & Todres, 2003), converting lists of words or sentences into themes or features. This process of thematic coding is recognised as a method in its own right (Braun & Clarke, 2006). Unlike other qualitative methods, it is not bound within a specific theoretical or epistemological position. Hepper et al.’s (2011) methodology was the

preferred choice of thematic content analysis in the current study due to its flexible approach and its ability to assess shared meanings across the sample. The stages of analysis to obtain features are explained below.

Refining the paranoia prototype.

To refine the paranoia prototype participants' responses had to be organised in accordance with formats relevant to prototype methodology (e.g. Hepper et al., 2011; Kearns & Fincham, 2004).

First a verbatim list of features identified by participants was compiled.

The next step was to organise participants' responses into distinct exemplars. Distinct exemplars were comprised of either one item from a list, or one 'unit of meaning' (Joffe & Yardley, 2004) from responses that contained multiple connected statements (e.g. thinking people are talking about you; looking over your shoulder; worrying for no reason; wary of others).

Words or phrases that described idiosyncratic situations or experiences of their own paranoia, or that were considered irrelevant to the question were then excluded.

The exemplars were then refined so that identical exemplars were grouped together.

Remaining exemplars were then coded independently following prototype methodology employed in comparable studies (Hepper et al., 2011; Kearns & Fincham, 2004). This was achieved by:

- (a) Grouping semantically related exemplars (e.g. overthinking and overthought; fear and fearful)

- (b) Grouping meaning-related exemplars (e.g. sad and upset) into categories
- (c) Grouping categories of common meaning (e.g. anguish and distress).

Attempts were made to be as conservative in this approach as possible but not treat words or phrases that were redundant as separate attributes.

Reliability and validity of the paranoia prototype.

Two independent research assistants then applied the final coding scheme to all the exemplars. Consistent with prototype methodology (e.g. Gregg et al., 2008; Hepper et al., 2011) they assigned each exemplar only one feature. Cohen's Kappa was calculated to ensure that the agreement between the original coding and the raters was not just down to chance. Cohen's Kappa takes into account and expresses the level of inter-judge agreement after chance agreement has been taking into account, producing a 'pure' level of agreement. This is expressed between 0 and 1, with 0 being no better than chance levels and 1 being complete agreement. Following this, Study 1b was conducted to identify attributes that were most salient within people's notions of paranoia.

2.2 Study 1b

Design

Study 1b used a one group cross-sectional design to quantify the centrality of the features of paranoia generated in Study 1a.

Participants

Sample.

The full independent sample ($N=100$) for Study 1b was obtained from a nonclinical population. Participants ($N=100$, 71% female 29% male; mean age = 34.8 years, $SD = 11.2$ years; Range = 20 - 64 years) were mostly Caucasian (85%), Black African/Caribbean (5%), Multiracial (4%), Asian (3%) or Other (3%). Although specific data were not collected around employment status, it was estimated that 68% of the sample population were psychology undergraduate students within the 18-21 years age bracket.

Participant inclusion criteria were people between the ages of 18-65 years old.

Exclusion criteria were people that were non-English speaking, had an organic brain disorder or intellectual disability and were unable to provide informed consent.

Previous prototype research was considered to ascertain the number of participants required for Study 1b (Hepper et al., 2011, Lambert et al., 2009; Fehr, 1988). These studies included samples ranging from 91 – 172 participants.

Recruitment.

The general public were recruited using convenience sampling (Barker et al., 2003) via an anonymous Internet survey and participated on a voluntary basis. So as not to be constrained by a purely student sample within this project, other methods were employed to recruit participants for this part of the study, including the use of Facebook and other social media sites. All methods provided the same summary information about the study. The web address allowed direct access for participation

as the study was completed online. Participants were only required to speak English and have access to an Internet enabled computer, and could therefore take part anywhere across the country.

Measures

Socio-demographic information.

The same socio-demographic questions were used as Study 1a. A copy of the socio-demographic questions asked can be found in Appendix 1.

Procedures

Rating the centrality of features.

All participants accessed the study through a web address. The link was posted on social media websites, including the Royal Holloway University Message of the Day site. Prior to clicking on the link the title of the study, ‘Attitudes and individual differences – developing a lay definition of paranoia’, was available to participants as well as a brief synopsis of what the study involved. This read:

‘If you decide to take part, I will ask you to provide some brief information about yourself. You will then be presented with a list of characteristics that describe paranoia, and will be asked to rate how important you think each one is to your understanding of paranoia’

Participants could then access the link and study information sheet (Appendix 4) for up to four weeks before deciding whether to take part in the study or not. There were

no restrictions on when participants could access the study and it was possible for multiple participants to take part at any one time.

Participants first read the information sheet and were asked to consent to taking part in the study (Appendix 4). Participants checked a box and signed if they agreed. If they did not respond in the affirmative they were unable to proceed with the study. Participants were then asked to provide a number of socio-demographic details (Appendix 1). At each stage of the study participants were able to click a 'withdraw' button which would automatically fast track them to the debrief statement at the end of the study and their data would not be uploaded to the secure database. Participants were informed of their right to withdraw prior to taking part and on finishing were given a debriefing statement (Appendix 6).

Next, participants ($N=100$) were asked to rate how central each category was to their understanding of paranoia. Previous studies using prototype methodology have used this approach to define the representativeness of exemplars (Harasymchuk & Fehr, 2012; Hassebrauck, 1997; Hepper et al., 2011, Fehr & Russell, 1984; Fehr & Russell, 1991; Lambert et al., 2009; Rosch, 1975; Seuntjens, et al., 2015; Xu et al., 2008;). Participants saw the generated list of features, the order of which was randomised each time by the questionnaire programme. As with relevant studies (Harasymchuk & Fehr, 2012; Hepper et al., 2011; Seuntjens et al., 2015), participants rated how closely each feature related to their view of paranoia on a Likert Scale from 1 (not at all related) to 8 (extremely related).

Then participants were thanked and provided with a debriefing sheet highlighting the aims of the study and reiterating sources of support available should participants feel worse for having taken part in the study.

Determining central and peripheral features.

Consistent with prototype methodology (Gregg et al., 2008; Hassebrauck, 1997; Hepper et al., 2011; Kearns & Fincham, 2004), in order to determine central and peripheral features a median-split was performed. Those features that were rated by participants as at or above the median were classified as central and those rated as below the median as peripheral. This resulted in a pool of central and peripheral paranoia categories generated for use in Study 2.

2.3 Study 2

Design

Study 2 used a repeated measures experimental design to verify the prototype structure and to examine the way participants automatically process central and peripheral features of paranoia.

Participants

Sample.

Participants ($N = 125$; 83% females and 17% males; mean age = 25.9 years; $SD = 13.3$ years; Range = 18 – 65 years) were mostly Caucasian (71%), Asian (22%), Black African/Caribbean (2%), Multiracial (2%) or Other (2%). Participant inclusion criteria were people between the ages of 18-65 years old. Exclusion criteria were

people that were non-English speaking, had an organic brain disorder or intellectual disability and were unable to provide informed consent. Although specific data were not collected around employment status, it was estimated that 63% of the sample population were undergraduate students within the 18-21 years age bracket.

A priori power analyses were conducted to ascertain the number of participants required for Study 2 to detect an effect similar to comparable studies. Power calculations were based on two previous studies. Hepper et al. (2011) and Seuntjens et al. (2015) were considered theoretically the most comparable samples and studies available. Hepper et al. (2011) reported a mean central score of 40.09 ($SD = 15.31$) and a mean peripheral score of 29.27 ($SD = 13.63$). The pooled standard deviation was used ($SD_{pooled} = 14.494$) for the power calculation, detailed below.

$$\text{Cohen's } d = (M_2 - M_1) / SD_{pooled}$$

$$\text{Cohen's } d = (40.09 - 29.27) / 14.494$$

$$\text{Cohen's } d = 0.74$$

When comparing central to peripheral features on free recall, Hepper et al. (2011) demonstrated a medium-large effect size ($f = .7$) as defined by Cohen (1992) for analyses using paired sample t-tests. With a medium-large effect expected, using the conventions of power set at .80 and an alpha level of .05, it was estimated that a sample of between 26-64 participants would be required for Study 2.

When comparing central to peripheral features on correct recognition, Hepper et al (2011) found a non-significant result. However, Seuntjens et al. (2015) demonstrated

a medium effect size ($f = .5$) for the same comparison, which would require 64 participants, as defined by Cohen (1992). When comparing central to peripheral features on false recognition, Hepper et al. (2011) demonstrated a medium effect size ($f = .48$) requiring a minimum of 64 participants, as defined by Cohen (1992). Steps were taken to recruit as many participants as possible within the time constraints of the current project.

Recruitment.

Participants ($N = 125$) were made up of students from Royal Holloway University and the general population. Participants were asked to complete a series of short tasks in exchange for course credit (relevant only for the student participants). Members of the general population were recruited using convenience sampling (Barker et al., 2003), recruited via social media and participated on a voluntary basis.

Measures

Socio-demographic information.

Socio-demographic questions consistent with Study 1a and 1b were used.

Examining the relative recall of features.

Based on approaches previously used by Hepper et al. (2011), stimuli were derived for presentation by dividing the 29 features of paranoia from Study 1 into two quasi-random sets each with 7 peripheral features and 7 to 8 central features. Participants were randomly allocated to view either set 1 or set 2. To activate participants' conceptions of paranoia each feature was embedded into a statement; for example "*Paranoia is about ...*" or "*Paranoia feels...*". Table 2 presents a full list of features and associated statements.

Table 2*Full list of features and associated statements*

Feature	Statement
Negative experience	Paranoia is a negative experience
Evil	Paranoia is evil
Irrational actions	Paranoia is about irrational actions
Convinced/compulsion	Paranoia involves being convinced
Doubting	Paranoia is feeling doubt
Hallucinations	Paranoia involves experienced hallucinations
Problematic behaviour e.g. self-harm/drug use	Paranoia is about problematic behaviour e.g. self-harm or drug use
Poor interpersonal relationships	Paranoia is about poor interpersonal relationships
Low-esteem/self-critical	Paranoia involves being self-critical
Faulty perceptions/delusions	Paranoia is experiencing faulty perceptions or delusions
Temperament	Paranoia is about temperament
Mental Illness	Paranoia is a mental illness
Physical discomfort/symptoms of anxiety	Paranoia is feeling physical discomfort or symptoms of anxiety
Self-obsessed	Paranoia is being self-obsessed
Emotional distress	Paranoia is feeling emotional distress
Betrayed	Paranoia is feeling betrayed
Obsessive/neurotic	Paranoia is feeling obsessive or neurotic
Blaming others	Paranoia is blaming others
Weird/mad	Paranoia is feeling weird or mad
Social isolation	Paranoia is about social isolation

Full list of features and associated statements continued

Perceived sense of threat	Paranoia is a perceived sense of threat
Wary/watchful	Paranoia is feeling wary or watchful of others
Fear/anxiety	Paranoia is feeling fear or anxiety
Unstable/insecurity	Paranoia is feeling unstable or insecure
Angry, frustrated/ irritable	Paranoia is feeling angry, frustrated or irritable
Worry	Paranoia is feeling worry
Troubled thinking	Paranoia is troubled thinking
Chronic/problem	Paranoia is chronic of a problem

Procedure

The study was advertised on the Royal Holloway Experiment Management System and undergraduate students could sign up to take part in exchange for course credits.

The study was also advertised on social media, so that members of the general population could opt to take part. Before agreeing to participate participants had access to the title of the study, ‘Attitudes and individual differences – Understanding and defining paranoia’, as well as a brief synopsis of what the study involved. This read: *“if you decide to take part, I will ask you to provide some brief information about yourself. You will then be presented with statements about paranoia, and asked to complete a series of short tasks”*. Participants could then opt to receive the information sheet ahead of taking part in the study, experiment timeslots were usually booked in a minimum of 4 weeks prior to the individual taking part in the study. Each participant recruited was made aware of his or her right to withdraw. Consenting participants signed the consent form (Appendix 5). Participants were asked to

complete a demographic details sheet, giving information on participant gender, age and ethnicity.

Each participant then viewed one of the two sets of features, with each statement being presented for four seconds on a computer screen (Kearns & Fincham, 2004).

Participants were then asked to complete a five-minute distractor task (a neutral word search) (Appendix 8). Next, in a surprise recall task, participants were given three minutes to list as many of the paranoia statements as possible that they had seen earlier, assessing free (uncued) recall. Finally, participants were given a list of all paranoia features from the two sets generated, and were instructed to circle all the categories they had seen on the screen previously, yielding indices of both correct recognition and false recognition, assessing recognition (cued) recall. Numbers of central and peripheral features recalled and recognised were then calculated.

Participants were debriefed following their completion of the study (Appendix 7) and the true nature of the distractor and surprise recall tasks were explained. All data were anonymised before it was stored on the secure database.

One judge coded each of the participant's responses. All judgments were very straightforward. There were no cases where it was difficult to decipher whether a participant's response corresponded with what had been presented or not. Items that were recalled that were not part of the paranoia prototype were omitted from the analyses. Six scores were computed for each participant: the number of central and peripheral features correctly recalled, the number of central and peripheral features correctly recognised and the number of central and peripheral features falsely recognised.

2.4 Ethical considerations

Full ethical approval was granted from the Royal Holloway University Psychology Department Ethics Committee (RHUL DEC) on 20th April 2015 (project approval number ref: 2015/032), prior to the commencement of data collection. The approval email can be found in Appendix 9.

The British Psychological Society (BPS) has published a number of guidelines that pertain to ethical considerations relevant to this research. These include the Code of Human Research Ethics (BPS, 2011) applicable to all research using humans. Within this project careful consideration was given to ethical issues. This was particularly important given the possibility that some participants could have experienced some increased distress during the study, due to the proposed continuity of psychotic experiences in the general population. This was managed by ensuring that consent was truly as ‘informed’ as possible. In addition to this all participants were aware of their right to withdraw at any point during the study. In terms of debriefing, the debrief pages were fully comprehensive and were provided on completion of the studies or if participants chose to withdraw at any point before the end of the study. In addition to this, contact details for the Samaritans and advice regarding accessing further psychological support was provided. My supervisor and myself were available to contact for questions and additional comments.

A recent adjunct to the BPS (2011) guidelines has been Ethics Guidelines for Internet Mediated Research (IMR; BPS, 2013), which highlights how special consideration may be needed to certain principles in an IMR context. Additionally, Conducting Research on the Internet (BPS, 2007) was consulted for the current research in its

capacity to provide more general guidance for all online psychological research, as well as adhering to the principles outlined in the BPS' Supplementary Guidance on the use of Social Media (BPS, 2012). The current study utilised recruitment through social media as one method of reaching potential participants for part 1b and 2 of the project. The guidelines were adhered to in a number of ways. Prior to completing the study a tick box option was put in place to confirm that participants had read and understood the information. Until this was checked participants were not able to proceed (IMR; BPS, 2013). The greater degree of 'distance' from participants in IMR can lead to difficulties maintaining levels of control over research procedures and environment. This may manifest in not being able to control or verify certain aspects, such as the environmental conditions under which participants are responding (e.g. are they watching television at the same time). This may result in variations occurring that might lead to invalid data and conclusions. Attempts were made to manage this by prompting participants to minimise distractions around them where possible, to allow them to fully concentrate on the study. A lack of control may also prevent the researcher from monitoring participants' reactions and behaviours. This may jeopardise the ability to detect when a participant has withdrawn, and thus properly present them with debrief information. The online programme for Study 1b had the functionality to allow participants to withdraw at any point. However, participants who clicked to exit the study early were directed to debriefing information in an attempt to manage these potential issues.

2.5 Service User Involvement

A small student user group of five volunteers from the psychology department were recruited using convenience sampling (Barker et al., 2003) using a blanket email requesting their involvement. Recruitment of a clinical service user group was not felt suitable; particularly as the project focused on lay conceptions of paranoia, with the assumption that this was not necessarily the same as a clinical presentation of paranoia.

The group were involved mainly in the design element of the research. Consultation was implemented to gain feedback on the design and clarity of the information and debrief sheets. For example, the information sheet was shortened to fit onto one page to make it more accessible and the language simplified in order to be appropriate for a lay population. The group also felt it was important that the study participants could opt to receive information on the findings of the research project. Adjustments were made in accordance with their comments.

The student user group also supported the development of an effective recruitment strategy, offering specific advice on where and how to best advertise the study. They provided insight into the most popular online forums associated with Royal Holloway University (e.g. Message of the Day). Ideas such as putting posters around campus were discarded as the group felt this would be a less fruitful recruitment strategy.

Chapter 3: Results

The results chapter begins with a data analysis section that outlines the main statistical methods used for the hypotheses as well as general conventions adhered to throughout. This is followed by a detailed description of the results from Study 1a and 1b, which focus on the development of the paranoia prototype. Results for Study 2, which was conducted to validate the paranoia prototype, are then presented.

Data Analysis

The data for the current study were analysed using the Statistical Package for Social Sciences version 21.0 (SPSS, version 21.0). Details are provided regarding the process of examining the normality of distributions, including transformations undertaken for non-normal distributions, and the steps taken to deal with outliers. For data interpretation, exact p – values are given, unless otherwise stated. Findings are reported to two decimal places with the exception of percentages that are reported to one decimal place. All hypothesis testing was two-tailed.

To address the hypothesis that formed Study 1a and 1b, that paranoia would have a prototypic structure, thematic content analysis was employed.

To address the hypotheses that formed Study 2 concerning the validation of the paranoia prototype, paired-samples t-tests were calculated on Free Recall, Correct Recognition and False Recognition of central and peripheral features.

3.1 Study 1a

Refining the paranoia prototype

The total verbatim list of exemplars identified by participants was 1781, with participants generating an average of 8.7 exemplars each. Participant's responses were then organised in accordance with steps outlined in the method chapter.

First, idiosyncratic situations or experiences of individual's own paranoia or that were considered irrelevant to the question were excluded. Examples of idiosyncratic items included exemplars such as '*no boyfriend*', '*going on trains and buses*', '*house*', '*money*', '*black*' and '*movies*'. A total of 99 responses in total were considered idiosyncratic and were discarded. This left a total of 1682 items.

In accordance with the concept of paranoia forming a prototype (as opposed to a classical definition), no single exemplar was mentioned by all of the participants. Rather, there was substantial variability in how frequently individual exemplars came to mind. There were exemplars (e.g. evil, betrayal) that were only listed by 2 individuals and at the other extremes were exemplars (e.g. fear) listed by 87 of the participants. Between these extremes was no clear break between items frequently and those less frequently cited. For example there were exemplars that were listed by 75 (anxiety), 41 (mistrust), 22 (lonely) and 7 individuals (threat). This gradual change in availability is consistent with the idea of an internal structure, that prototypical members shade gradually into non-prototypical members and then into non-members with no sharp boundary to be found (Russell, 1991).

However, participants did agree on certain exemplars. For ease of presentation, the exemplars of paranoia are described in terms of clusters or themes that characterised the responses. There was one large cluster of exemplars listed that had strong associations with anxiety (e.g. anxiety, fear, worry, scared). On the other hand, exemplars that may have been considered intuitively relevant (based on the previous literature) to a definition of paranoia, such as threat, harm or delusions, were listed by significantly fewer participants than perhaps expected.

Next, features were organised into distinct exemplars (comprising of either one item from a list or one 'unit of meaning') (Joffe & Yardley, 2004). Identical exemplars were grouped together. For example, anxious and afraid were included within a 'fear/anxiety' feature and distrust, mistrust of others and suspect, were all included in the feature 'doubting'. Once completed, a total of 271 distinct exemplars remained. From these 271 exemplars an initial coding scheme was developed which contained 29 features. Table 3 represents the 29 features, sample exemplars and the frequencies of exemplars listed within each feature out of the total 1682.

Table 3*Lowest – highest percentages of exemplars listed within a feature*

Feature	Exemplars written by participants	<i>N</i> (%) times listed
Evil	Evil, malicious, Dark	7 (0.4)
Betrayed	Lies, cheating, betrayed	9 (0.5)
Blaming others	Accusing, attacking, Blame directed on others, blame	10 (0.6)
Temperament	Mental attitude, temperament	14 (0.8)
Self-obsessed	Self-obsessed, introversion, self-obsession, me-orientated	17 (1.0)
Low-esteem/self-critical	Low-esteem, lack of confidence, self-critical	19 (1.1)
Negative experience	Result of a bad experience	22 (1.3)
Poor interpersonal relationships	Social paralysis, poor interpersonal relationships, Dependency	24 (1.4)
Chronic/problem	Difficult, Problem, Chronic	24 (1.4)
Convinced/compulsion	Forceful, Convinced, imposing	25 (1.5)
Angry, frustrated/irritable	Angry, cross, annoyance, Frustration	30 (1.8)
Hallucinations	Hallucinate, Hearing things, Seeing things, Visions	32 (1.9)
Problematic behaviour e.g. self-harm/drug use	Self-harm, Self-abuse, weed, substances, Addict	34 (2.0)
Weird/mad	Weird, Inexplicable, odd, Unnatural	34 (2.0)

Lowest – highest percentages of exemplars listed within a feature continued

Irrational actions	Irrational actions, Fast paced walking, Shoulder checks	34 (2.0)
Confined/repressed	Confined, Enclosed, entrapment, Repression	41 (2.4)
Unstable/insecurity	Unstable, Insecurity, Uncertainty, fear of unknown	42 (2.5)
Obsessive/neurotic	Obsessive, Fixation, stubborn, neurotic	64 (3.8)
Faulty perceptions/delusions	Delusional, delusion, misjudgement, Faulty perception of others and self	66 (3.9)
Emotional distress	Emotional, Emotionally painful, Emotive, Sad, miserable	68 (4.0)
Perceived sense of threat	Threatened, endangered, Threat from others, Vulnerable, Helpless	69 (4.1)
Physical discomfort/symptoms of anxiety	Anxiety attacks, panic attack, Heart beating fast, shaking	71 (4.2)
Troubled thinking	Troubled, tormented, negative thoughts, Over-thinking	73 (4.3)
Social isolation	Loneliness, isolation, lonely, alone	78 (4.6)
Wary/watchful	Wary, Cautious, Watching, Aware	81 (4.8)
Doubting	Distrust, doubt, not trusting	86 (5.1)
Worry	Excessive worry, thinking something bad is going to happen,	95 (5.6)
Mental Illness	Illness, Condition, Hormonal imbalance, Personality Disorder	107 (6.3)
Fear/anxiety	Fear, Anxiety, Afraid, Terrified	406 (24.7)

At this point the results indicated that there were neither necessary nor sufficient features, as one would expect to find given a classical definition of a concept. Of interest, the majority of exemplars listed were negative in tone; possible positive functions of paranoia were largely not named. Only one participant listed ‘self-protective’ as an exemplar. Furthermore, a sizeable proportion of participants listed exemplars that indicated a view of paranoia through a clinical or psychiatric lens (e.g. schizophrenia, mental illness, depression). A small proportion of participants also listed features that were pejorative and demonstrated a condemnatory view of paranoia (e.g. evil, insane, weird, crazy, freak, mad).

Inter-rater reliability of the paranoia prototype

Two independent research assistants then applied the final coding scheme to all exemplars. Inter-rater agreement for the two raters against the 29 features are shown below.

Table 4

Inter-rater agreement

	Inter-rate agreement (kappa)
Rater 1	.70
Rater 2	.74

The inter-rater agreement for the two raters indicated a high level of agreement between raters, with both kappa levels meeting the convention of .7 (Cohen, 1960).

There was no need to revise discrepant codes, as the Kappa values both met convention. Therefore, the codes applied by the original coder were retained.

Features of paranoia

Many of the features generated were at a high level of abstraction (e.g. ‘emotional distress’, ‘social isolation’, ‘blame’) and some features were mentioned much more frequently than others. ‘Fear/anxiety’ was the most frequently mentioned (406 times) followed by ‘mental illness’ (107 times). There were a proportion of participants that generated multiple exemplars that fell in the same feature. The particularly high frequency of ‘fear/anxiety’ exemplars is partially explained by this phenomenon.

General themes that emerged from the features were that the prototype of paranoia included cognitive processes (e.g. worry, troubled thinking, faulty perceptions/delusions) and affective processes (e.g. emotional distress) of paranoia. In addition to this, participants listed behavioural aspects and features suggestive of expectation that paranoia leads to interpersonal difficulties (e.g. social isolation, doubting and blaming others). There was also reference to possible causal factors or triggers to paranoia (e.g. problematic behaviour, negative experience), but these were only represented by two of the features.

3.2 Study 1b

Prototypicality of features

The objective of Study 1b was to quantify the centrality of the features of paranoia generated in Study 1a. Centrality ratings are shown in Table 5. Centrality ratings

ranged from 2.08 to 7.05; that is, some attributes were considered as expressing the very meaning of the concept to a greater extent than others.

Intraclass correlation

As with previous relevant literature (Hassebrauck, 1997; Hepper et al., 2011; Kearns & Fincham, 2004;), in order to determine the absolute as well as relative agreement of the participant's ratings the intraclass correlation (*ICC*) was calculated. This was achieved by transposing the data, treating the 29 features as cases and the 100 participants as items, before calculating the *ICC*. The participant's ratings of the features were found to be extremely reliable ($ICC = .98$, 95% confidence interval = $.97 - .99$).

Determining central and peripheral features

Because the features were intended for use in following studies, it was necessary to decide which features should be considered central and which should be regarded as peripheral. In order to determine this a median-split was performed. This was calculated by ordering the mean ratings of each of the 29 features, demonstrating that the median was 5.39. Those features that were rated by participants as at or above the median were classified as central and those rated as below the median as peripheral. This resulted in a pool of 15 central and 14 peripheral paranoia features generated for use in Study 2. It should be noted, however, that this division of features is not meant to imply that there is a clear line demarcating central and peripheral features. Rather centrality is considered to be on a continuum (Kearns & Fincham, 2004). Table 5 presents the 29 features, with frequencies generated from Study 1a and centrality ratings from Study 1b.

Table 5*Features of Paranoia, Frequencies Generated in Study 1a and Centrality Ratings in Study 1b*

Feature	<u>Central</u>	<u>Study 1a</u>	<u>Study 1b</u>	
		<i>N</i>	<i>M</i>	<i>SD</i>
Perceived sense of threat		69	7.05	1.27
Fear/anxiety		406	6.93	1.29
Worry		95	6.75	1.47
Faulty perceptions/ delusions		66	6.38	1.50
Emotional distress		68	6.28	1.58
Unstable/insecurity		42	6.02	1.46
Physical discomfort/symptoms of anxiety		71	6.02	1.71
Obsessive/neurotic		64	5.93	1.84
Troubled thinking		73	5.92	1.53
Wary/watchful		81	5.85	1.79
Irrational actions		34	5.68	1.71
Mental Illness		107	5.66	1.79
Negative experience		22	5.54	1.66
Social isolation		78	5.40	1.87
Convinced/compulsion		25	5.39	1.82

Features of Paranoia, Frequencies Generated in Study 1a and Centrality Ratings in Study 1b continued

	<u>Peripheral</u>		
Chronic/problem	24	5.16	1.73
Doubting	86	5.06	1.80
Low-esteem/self-critical	19	4.69	1.90
Problematic behaviour e.g. self-harm/drug use	34	4.34	1.89
Hallucinations	32	4.07	2.04
Confined/repression	41	3.95	1.65
Angry, frustrated/irritable	30	3.92	1.75
Poor interpersonal relationships	24	3.88	1.91
Temperament	14	3.56	1.87
Self obsessed	17	3.49	1.97
Blaming others	10	3.49	1.99
Betrayed	9	3.32	1.91
Weird/mad	34	3.22	1.89
Evil	7	2.08	1.43

Note. Features are listed in order of Study 1b centrality ratings, which used a scale from 1 (not at all related to paranoia) to 8 (extremely related to paranoia). Features rated above the median (5.39) were classified as central, and those below the median as peripheral

Comparing central and peripheral features

Central features were largely a mix of nouns and adjectives. Many of these features focused on derivatives of anxiety (e.g. fear/anxiety, worry, perceived sense of threat). Possible triggers, causal or consequential factors, such as mental illness or social isolation, were also rated as central. Cognitive processes also featured highly in the central categories (e.g. delusions, worry, troubled thinking, faulty perceptions and delusions). In contrast peripheral codes were more made up of verbs and were largely more pejorative in nature (e.g. self-obsessed, blaming others, weird/mad, evil). Despite some of these codes not being the least frequently listed attributes in Study 1b, they were all lowly ranked with regards to their centrality. Although at this point not conclusive, the findings supported the hypothesis, offering encouragement that lay paranoia appears to have a prototypical structure characterised by a core set of central features.

3.3 Study 2

Data Screening

Prior to carrying out any statistical analysis, descriptive statistics were explored which confirmed that all observed data were within expected ranges. The data set was screened for missing data, of which there were no missing values ($N = 125$). Screens were undertaken to ensure that all assumptions for the use of parametric analyses were met (Tabachnick, Fidell, & Osterlind, 2001) and for any outliers.

Outliers

Outliers were investigated by observing the frequency outputs and generating boxplots for all variables. An outlier was defined as an extreme score if the data point

was more than three standard deviations from the mean of the variable of interest (Field, 2009). Within the variable 'Free Recall Central', five outliers were identified. These were all 0 scores. However Tabachnick et al. (2001) suggest that where numerical indicators suggested datasets were normally distributed, as they were in this instance, then extreme scores should be retained in the dataset. Retention of these scores prevented a loss of power and because the sample was relatively large in the present study, the chance that any extreme scores would have a disproportionate influence was lowered (Field, 2009; Tabachnick et al., 2001).

Parametric Data Assumptions

The distributions of central and peripheral features for Free Recall, Correct Recognition and False Recognition were checked for normality by inspecting their histograms with normal curves and calculating skewness and kurtosis z-scores using the following formulae:

$$Z_{\text{skewness}} = \frac{S - 0}{SE_{\text{skewness}}} \qquad Z_{\text{kurtosis}} = \sqrt{\frac{K - 0}{SE_{\text{kurtosis}}}}$$

A distribution was considered normal if a z-score for both skewness and kurtosis was less than 3.29 ($p < .001$) (Field, 2009).

Correct Recognition for peripheral features was negatively skewed ($z = -3.83$ $p < .001$). A transformation squaring the data was applied (Tabachnick et al., 2001) which resulted in a normal distribution with acceptable levels of skew ($z = -0.25$ $p < .001$) and kurtosis ($z = 1.87$ $p < .001$).

The False Recognition central variable was positively skewed ($z = 3.71, p < .001$). A square root transformation was applied (Tabachnick et al., 2001) which resulted in a normal distribution with acceptable levels of skew ($z = -1.90, p < .001$) and kurtosis ($z = 1.30, p < .001$).

The False Recognition peripheral variable was also positively skewed ($z = 5.17, p < .001$). A square root transformation was applied (Tabachnick et al., 2001) which resulted in a normal distribution with acceptable levels of skew ($z = 1.48, p < .001$) and kurtosis ($z = 1.87, p < .001$).

The Free Recall central and peripheral and Correct Recognition central variables all had acceptable levels of skew and kurtosis.

Statistical Analyses of the Hypotheses

Descriptive statistics for Free Recall, Correct Recognition and False Recognition for the entire sample are presented in Table 6.

Table 6

Descriptive statistics for Free Recall, Correct Recognition and False Recognition for the entire sample

	<u>Central</u>			<u>Peripheral</u>		
	Mean	Standard Deviation	Range	Mean	Standard Deviation	Range
Free Recall	2.51	1.22	0 - 6	1.84	1.23	0 - 6
Correct Recognition	4.94	1.54	1 - 8	5.10	1.68	0 - 8
False Recognition	1.42	1.19	0 - 5	.67	.82	0 - 3

Hypothesis 1): Significantly more central than peripheral features will be freely recalled.

Central and peripheral Free Recall of features was compared using a paired-samples t-test. This found that participants remembered significantly more central than peripheral features ($t(124) = 4.9, p < .001$), thereby indicating that Hypothesis 1 was supported.

Hypothesis 2): Participants will recognise significantly more central than peripheral features.

Correct Recognition of central and peripheral features was compared using a paired-samples t-test. The descriptive statistics indicated that participants recognised slightly more peripheral than central features, but the difference was not found to be significant ($t(124) = -1.4, p = .177$). This indicates that Hypothesis 2 was not supported.

Hypothesis 3): Participants will falsely recognise significantly more central than peripheral features.

False Recognition of central and peripheral features was compared using a paired-samples t-test. Participants falsely recognised significantly more central than

peripheral features ($t(124) = 7.1, p < .001$). This indicates Hypothesis 3 was supported.

Chapter 4: Discussion

4.1 Overview

The project examined lay conceptions of paranoia to help develop and validate a prototype of the construct of paranoia thereby developing the understanding of how individuals themselves define and conceptualise the construct. The project reports the findings of two studies. The first aimed to investigate whether lay views of paranoia have a prototype structure, characterised by a core set of central and peripheral features. Study 1a and 1b provided evidence that the concept of paranoia does have a prototype structure, such that participants identified features of a concept, with some features being regarded as more characteristic of the concept than others (Rosch, 1975). The second study (Study 2) presented the initial steps involved in testing and validating the prototype by investigating the influence of feature centrality on recall and recognition. Study 2 found that two out of three hypotheses were supported. Significantly more central than peripheral features were both freely recalled and falsely recognised. However, no significant differences were found between correct recognition of central and peripheral features. The main findings will be discussed in relation to relevant existing theory and empirical research, incorporating suggestions for future research. The study's strengths and limitations will then be outlined, followed by discussion of potential theoretical and clinical implications of the research, finishing with concluding remarks.

4.2 Summary of Main Findings

Study 1a – Feature generation.

The objective of Study 1a was to generate a pool of prototypical features of paranoia, to uncover whether lay paranoia had a prototypic structure. The objective was determined by empirical and theoretical considerations provided in the introduction. It was partially exploratory as research into developing and validating a lay prototype of paranoia was novel. The literature that was reviewed focused on comparable emotion concepts within prototype literature (e.g. Hepper et al., 2011; Fitness & Fletcher, 1993; Kearns & Fincham, 2004; Lambert et al., 2009; Russell, 1991), as well as considering the current theoretical understanding of paranoia, its multidimensionality (Bebbington et al., 2013; Freeman et al., 2011; Johns & van Os, 2001) and the challenges of finding a definition that accurately represents such a heterogeneous construct. Initial analysis sought to establish if lay conceptions of paranoia had a prototypic structure.

Results of Study 1a demonstrated that many of the exemplars generated were at a high level of abstraction. This likely reflects the abstract, heterogeneous nature of the construct itself. This may also account for the fact that fewer features of paranoia ($n = 29$) were obtained as compared with other emotion prototypes such as commitment ($n = 40$, Fehr, 1988), love ($n = 68$; Fehr 1988), gratitude ($n = 52$; Lambert et al., 2009); although the numbers were more comparable with nostalgia ($n = 35$; Hepper et al., 2011) and respect ($n = 31$; Frei & Shaver, 2002). The similarities and differences found in the number of common features from one study to the other may reflect expected differences in the number of features generated according to the nature of

the construct. Alternatively it may be a reflection of the similarities, or lack of, in the procedures implemented, particularly as different methodological approaches have been employed across the prototype literature. For example, within Fehr's (1988) study, the instructions given to participants prior to generating a list of features provided a story-like description or a list of attributes to model to participants what was required of them. Whereas Lambert et al. (2009) (adapted from Fehr & Russell, 1984) used the same instructions as this thesis, but additionally informed participants to: *"Imagine that you are explaining the word gratitude to someone who has no experience of gratitude. Include the obvious. However, try not to just free-associate. We're interested in what is common to instances of gratitude. Remember that these attributes can be positive or negative"* (p. 1196). Participants were then instructed to write down characteristics that came to mind when they heard the word *gratitude*. This issue could be examined in future studies by varying the participant instructions in a systematic way and examining the impact on feature generation.

No single exemplar was mentioned by all participants. Rather there was substantial variability in how frequently exemplars came to mind. For example, 40% of participants mentioned fear as a feature of paranoia, whereas only 8% mentioned delusions. However, participants did agree on certain features. Frequently listed features included anxiety (listed by 37% of participants), worry (38%) and scared (28%). On the other hand, some features that were thought to be intuitively relevant to a definition of paranoia, such as threat or harm (Freeman & Garety, 2000), were listed by fewer than 4% and 1.5% of participants respectively. The high level of abstraction and variability of exemplars indicates that there are neither necessary nor sufficient features, as one would expect to find given a classical definition of a concept. This

gradual change in availability is consistent with the idea of an internal structure, that prototypical members shade gradually into non-prototypical members and then into non-members with no sharp boundary to be found (Russell, 1991).

It is important to note that there was one particularly large cluster of features that was related to anxiety. Participants generated multiple exemplars that fell within the same category and this was particularly true within the ‘fear/anxiety’ feature. Therefore the high frequency of ‘fear/anxiety’ exemplars is explained somewhat by this phenomenon. This presented a slight complication during coding. On one hand, such exemplar duplication provides only redundant semantic information (Gregg et al., 2008). For example, if a participant successively reported that paranoia was ‘fear’ and ‘terror’ then they would essentially be characterising paranoia as fear or anxiety (the category label) twice. By this view, duplicate exemplars should be ignored. However, such exemplar duplication provides useful psychological information. In participants’ search for a new characteristic to report, participants may have reiterated one similar to, or synonymous with, a previous characteristic because of the continuing accessibility of the overarching category (Gregg et al., 2008). Such findings would suggest that many participants regard the categories ‘fear/anxiety’ or ‘mental illness’ (both frequently cited) as being highly applicable to paranoia and therefore duplicate exemplars should be acknowledged.

Referents to anxiety are consistent with literature into paranoia within the general population, demonstrating substantial links between affect and paranoia (Freeman et al., 2002; Freeman et al, 2010; Freeman et al., 2011), specifically anxiety (Bebbington et al., 2013). Referents to mental health, including differential diagnoses (e.g. anxiety

or depression), are also in line with theoretical conceptions within clinical populations that acknowledge that paranoia as a 'pure' experience is rare and that comorbidity is the 'norm' (Miller & Holden, 2010). Such studies link paranoia with other disorders including depression (Myin-Germeys, Krabbendam & van Os 2003), anxiety disorders (Allen, Freeman, Johns & McGuire, 2006) and personality disorders (APA, 1994). The relevance of mental illness within lay conceptions of paranoia, parallels early empirical psychiatric views of paranoia as a clinical experience (Esterberg & Compton, 2009), but is less reflective of current theoretical positions that have tried to move away from the pathologisation of the concept.

Generally, features elicited in Study 1a followed a theme of being largely negative in affective tone: participants wrote about feelings of fear, torment and loneliness. Of interest, there were no features that were demonstrably positive in tone or that acknowledged the potential adaptive or functional aspects of paranoia. This is discrepant from empirical literature on paranoia that, in the last decade, has begun to agree on an evolutionary perspective, acknowledging the possibility of paranoia being an understandable and even appropriate response to certain situations and life events (Bebbington et al., 2013; Ellett et al., 2003; Kelleher, Jenner & Cannon, 2010; Morrison et al., 2011; Preti & Cella, 2010). This is a position that has now garnered considerable support. However, the paranoia prototype did not feature such aspects. On the contrary, the prototype appeared to be negative and clinical in nature. The findings of Study 1a are perhaps not surprising as representation of dominant psychiatric discourses have been shown to be present within lay views (Gleeson, 1991). However, one possible explanation of this finding is the high proportion of psychology students recruited. Psychology students might be expected to be more

likely than other members of the general population, or even non-psychology students, to view paranoia from a clinical perspective. Future research should replicate Study 1a with members of the general population.

An additional explanation for this is the way in which the task was set up, as it elicited characteristics, rather than individuals' understanding of paranoia within an everyday context. This means that some aspects of the prototype may exist, but have not yet been elicited. The first example of this was the study not being able to objectively establish if some exemplars listed did have positive connotations or not. There was just one question that participants responded to, where they were asked to list features and characteristics that, in their opinion, best described and distinguished paranoia accurately. Future research could adapt the procedural instructions of Study 1a to prompt participants to look at whether features could be considered to be positive or negative. Additionally, despite being written about extensively within other literature domains and a general consensus that more global feelings of paranoia have risen within western societies in recent years, the features did not reflect paranoia as a societal phenomenon (Rose, 1989) or any notion of a 'paranoia culture' (e.g. societal mistrust or lack of social cohesion (Freeman & Freeman, 2008)). It is again possible that both of these findings could be explained by the way in which the task was set up, meaning that these specific features were not elicited.

In summary, the results from Study 1a indicate that there are neither necessary nor sufficient features, as one would expect to find given a classical definition of a concept. The findings have provided initial support for lay conceptions of paranoia having a prototypic structure, although it is important that this aspect of the study

receives replication due to its relative infancy as a developing idea. Although there was overlap between experts' and laypersons' conceptualisations of paranoia, there were also differences noted. Study 1a revealed that the prototype of paranoia comprises largely of negative features or ones involving negative consequences. Participants did not seem to spontaneously indicate that there were distinctions between clinical and lay paranoia. Anxiety and mental illness appeared to be particularly relevant in peoples' conceptions, paralleling much of the early psychiatric views of paranoia as a clinical experience (Esterberg & Compton, 2009). The lack of acknowledgement for adaptive functions further demonstrates that lay conceptions mirror clinical narratives that have dominated much of the intellectual history of paranoia. It is also possible that peoples' conceptions of paranoia just do not feature adaptive aspects; this is perhaps not surprising as the word itself tends to be used in non-complimentary social contexts. Having said this, the acknowledgement of a range of different processes involved (including cognitive, affective, behavioural and interpersonal processes) within the features, is more in line with current literature that views paranoia as multifaceted, entailing a combination of elements. This suggests that lay views may have somewhat moved away from the linguistic origins of paranoia.

Study 1b – Prototypicality of paranoia.

If a concept possesses a prototypical structure, then certain features must not only be representative of the concept, participants must be also able to make meaningful judgments about whether the features of the concept are central or peripheral (Kearns & Fincham, 2004). Moreover, there must be substantial agreement on these

judgments. Therefore, the objective of Study 1b was to gather information about the centrality of the paranoia features gathered from Study 1a.

The first important finding from Study 1b was that participants considered some features to be more prototypical of paranoia than others. Moreover, they agreed on these ratings (i.e. the ICC was found to be extremely reliable). The fact participants found this to be a meaningful task fulfils the first criterion for demonstrating that a concept is prototypically organised.

Comparisons between Study 1b's mean centrality ratings with the frequencies from Study 1a (see Table 5, page 75) indicated that some features were both listed frequently and given high centrality ratings (e.g. fear/anxiety and worry). This is also consistent with the construct of paranoia having a prototype structure. There were, however, noteworthy discrepancies where frequency and centrality ratings did not directly reflect one another. For example, mental illness was the second most frequently listed feature in Study 1a, but was ranked near the lower half of central features. In addition to this, doubting was frequently listed in Study 1a yet was ranked as peripheral. Some features that had not ranked highly in Study 1a, such as perceived sense of threat, were then rated as very central to lay conceptions of paranoia.

Despite the associations between frequency and centrality being somewhat low, this is consistent with results found in other prototype analyses (Fehr & Russell, 1984; Hassebrauck, 1997; Kearns & Fincham, 2004). This finding implies that the most readily recalled features are not necessarily always the most central. Hassebrauck (1997) proposes that frequency and centrality measure different aspects of internal

structure. When individuals are asked to freely recall the paranoia features, all different features readily come to mind. It is possible that during the free-listing task participants used a ‘what comes to mind first is appropriate’ heuristic, whereas, the centrality ratings likely require more systematic processing of information (Kearns & Fincham, 2004). This suggests that even though people report that these components are not good indicators of paranoia when given time to critically evaluate them, they still incorporate them into the prototype of paranoia when they are processing less systematically. It is possible that this may explain why some of the more pejorative features (e.g. weird/mad) were listed relatively frequently within the free-listing task, but were ranked as some of the most peripheral during Study 1b, once participants were asked to make decisions about them with regards to their centrality. Indeed this fits with Hassebrauck’s (1997) suppositions and with literature that argues that prototype theory’s treatment of categorisation perhaps works best for quick unreflective judgements and that with more reflective judgements, people go beyond the outcome of a similarity comparison (Gelman, 2003).

Another possible explanation for the differences observed between Study 1a and 1b, might be the different samples used, particularly as Study 1b’s participants were older with a slightly higher proportion from the general population. Alternatively, the findings could be explained to some extent by social desirability. When it came to rating centrality, participants may have felt that the politically correct view was not to see ‘weird, mad or evil’ as central to paranoia.

In support of the findings of Study 1a, Study 1b similarly demonstrated lay conceptions of paranoia’s variability. These findings are concordant with current

empirical views that paranoia is multidimensional (Freeman, 2007; Garety, Everitt & Hemsley, 1988; Garety & Hemsley, 1994; Kendler, Glazer & Morgenstern, 1983), with different facets of the prototype mapping directly on to dimensions listed as pertinent within the literature. For example, several of the central features that had not featured as frequently during the free listing (Study 1a), fit more with theoretical conceptions of paranoia. Particularly pertinent were perceived sense of threat, conviction, preoccupation (represented by the ‘convinced/compulsion’ feature) and emotional distress. These findings are consistent both with intuitive expectation and widely accepted theoretical conceptions of paranoia (e.g. Freeman & Garety, 2000).

Further building on Study 1a, Study 1b also found anxiety related features substantially represented within central features of the prototype. This is consistent with research demonstrating substantial links between affect and paranoia (Freeman et al., 2002; Freeman et al., 2010; Freeman et al., 2011). At present, the evidence for a link between anxiety and paranoia is reasonably strong, specifically implying close structured relationships between worry, anxiety and paranoia (all concerning the theme of anticipation of threat) (Bebbington et al., 2013; Bentall et al., 2009; Benzeev, Elligton, Swendsen & Granholm, 2010; Freeman et al., 2011; Varghese et al., 2009). The feature ‘worry’ itself was also both frequently listed and rated as central to the paranoia prototype. This fits with evidence that has demonstrated paranoid thinking and anxiety-related cognitive processes are linked (Freeman, 2007). For example, evidence indicates that almost two-thirds of individuals with persecutory delusions have a worry thinking style (even about matters unrelated to paranoia) (Freeman & Garety, 1999; Startup, Freeman & Garety, 2007). It is argued that anxiety generally facilitates creation of thoughts of a paranoid content, and that anxiety-

related cognitive processes (such as worry) contribute to the maintenance and distress associated with the experience. Anxiety has repeatedly been found to be predictive of the occurrence of paranoid thoughts (Freeman et al., 2003; Freeman, Garety, Bebbington, Smith et al., 2005) and of the persistence of persecutory delusions (Startup et al., 2007). Moreover, it has been shown in nonclinical groups that paranoid thoughts build upon common interpersonal anxieties and worries (Freeman, Garety, Bebbington, Slater et al., 2005; Freeman, Garety, Bebbington, Smith et al., 2005). However, paranoia is more than just excessive fear or anxiety, as was demonstrated within the prototype.

The prototype of paranoia included cognitive processes, other than worry (e.g. faulty perceptions/delusions), that featured highly within central components. This is fitting with large aspects of the paranoia literature that have focused on threat beliefs and misperceptions. Threat beliefs have been shown to become paranoid when accompanied by biases in reasoning, such as reduced data gathering (Garety & Freeman, 1999), failure to generate alternate explanations for an experience (Freeman et al., 2004) and strong confirmatory reasoning bias (Freeman, Garety, McGuire & Kuipers, 2005). When reasoning biases are present, the suspicions are more likely to become near certainties; the threat beliefs become held with a conviction unwarranted by the evidence and may then be considered delusional (Freeman, 2007).

Additionally, anxiety-related behavioural elements were apparent within central features of the prototype that align with theoretical conceptions. Examples of these central features were 'irrational actions' and 'wary/watchful'. Many exemplars within these features were consistent with examples of safety behaviours found to be

associated with paranoia (Freeman et al., 2001; Freeman et al., 2007). Individuals who feel threatened often carry out actions designed to prevent their feared catastrophe from occurring; this has been termed ‘safety behaviour’ (Salkovskis, 1991). Literature has demonstrated that safety behaviours are utilised in both clinical and nonclinical populations (Freeman et al., 2007; Simpson, MacGregor, Cavanagh, Dudley, 2012).

Of interest, the paranoia prototype also matched themes found in qualitative research uncovering lay perspectives within clinical populations (Boyd & Gumley, 2007; Carrick, Mitchell, Powell, & Lloyd, 2004; Hirschfield, Smith, Trower, & Griffin, 2005; McNally & Goldberg, 1997). Themes such as fear, vulnerability, emotional distress, uncertainty and a sense of being under attack (Boyd & Gumley, 2007) could be seen to varying degrees throughout central features of the prototype. However, elements of keeping oneself safe in dangerous situations or possible benefits that emerge from paranoid experiences identified by service users (McCarthy-Jones et al., 2013), were not elicited by the paranoia prototype.

In summary, Study 1b has provided evidence that the concept of paranoia has a prototype structure, such that some features were regarded as more characteristic of the concept than others. Moreover, participants found this to be a meaningful task, fulfilling the first criterion for demonstrating that a concept is prototypically organised. Both the tasks, of open-ended generation and centrality ratings, seem to present a view of paranoia that in many ways mirrors that of psychiatric opinion and theoretical conceptions; multidimensional, anxiety-based, consisting of cognitive elements and being somewhat problematic in nature. Where the lay definition differed

was in its acknowledgement of relevant interpersonal factors, as well as capturing nuances involved particularly within the affective and behavioural processes that surround feelings of paranoia. In contrast to current theoretical conceptions (e.g. Ellett et al., 2003), the paranoia prototype does not feature evolutionary perspectives of paranoia. Overall, the paranoia prototype has been able to capture not only peoples' conceptualisations of paranoia but also a sense of paranoia's heterogeneity and broadness in ways that previous categorical definitions have struggled to do.

Study 2 – Validating the prototype.

If lay conceptions of paranoia are prototypically organised, then its structure should affect cognition. More specifically, it was hypothesised that the prototype should affect performance on both recognition and recall memory tasks (Hepper et al., 2011; Kearns & Fincham, 2004). Activation of a prototype causes features closely associated with the prototype to be more easily accessible in memory (Cantor & Mischel, 1979). The purpose of Study 2 was to investigate both recall and recognition memory in a single experiment. It was proposed that it would be difficult for participants to distinguish between central features of paranoia that were presented during an acquisition phase and other central features of paranoia that were not presented, but were closely associated with the concept. Peripheral features, however, should be much easier to distinguish because they are less closely associated with paranoia (Hepper et al., 2011). Therefore, because central features should be more salient in memory than peripheral features, it was expected that participants would correctly recall and recognise more central features of paranoia. Additionally, it was predicted that participants would be more likely to falsely recognise central than peripheral features. The findings of Study 2 will now be explored in greater detail.

It was observed that participants were unable to recall many of the paranoia features, either central or peripheral. Participants correctly recalled less than 30% of the features that they had seen, both central and peripheral. Despite this being a low percentage, this is consistent with results found in other prototype analyses (Kearns & Fincham, 2004). Of the items recalled, participants rarely included ones that were not presented, resulting in less than 4.4 features on average being generated. This low rate of recall could be explained by literature that proposes that recall of items is harder than recognition (Kintsch, 1970). Indeed, a higher rate of recognition was found within Study 2. Recognition requires a lower threshold of strength than does recall. During recall an item is first retrieved from memory by the search process; it is then tested by the recognition process, which determines if it is from the ‘to-be-recalled’ list. Therefore, for an item to be recalled, it must be both successfully retrieved and recognised (Kintsch, 1970).

Results from this study provide evidence that fulfils the second criterion for demonstrating that paranoia is prototypically organised; that centrality of the paranoia features affect cognition. Participants both correctly recalled and falsely recognised more central features of paranoia. It appears that when participants were presented with the paranoia features, the concept itself was activated. The concept then acted as an organising principle for processing further material, resulting in a bias toward recognising non-presented, but highly related, features of the concept. However, contrary to our predictions, it was found that feature centrality did not affect correct recognition. The number of central features recognised was not significantly different from peripheral features. There are inconsistencies within previous prototype

literature as to what has been found regarding correct recognition (Hepper et al., 2011; Seuntjens et al., 2015), meaning it is difficult to explain this result based on current theory.

One possible explanation for the non-significant finding is that recognition of features may differ in a number of ways that are unrelated to prototypicality but which may influence recall and recognition. For example, the positive or negative valence of features. However, the current study recorded only the number of features listed in the recall and recognition tasks, not the features themselves. There is therefore no way of determining whether particular features were recalled or recognised more than others. For example, it could be hypothesised that words with potential to shock (e.g. evil or mad) might be processed differently in memory. This phenomenon may have impacted upon results and led to more of these types of peripheral features being recognised. Future research could consider these potential distinctions between features. However, prototype methodology for emotion concepts does not routinely report this (Gregg et al., 2008; Hepper et al., 2011; Morgan et al., 2014; Seuntjens et al., 2015) and has received some criticism for being over simplistic and ignoring the more subtle issues surrounding information processing (Clore & Ortony, 1988; Johnson-Laird & Oatley, 1989). More systematic examination into the impact of feature valence and other factors that may influence recognition and recall, would improve the reliability and validity of such methodologies.

In summary, the paranoia prototype affected performance on both recall and false recognition memory tasks, suggestive of lay conceptions of paranoia affecting cognition and thus being prototypically organised. These initial findings would benefit from replication to attest to their reliability and validity. Future research may

look to complete the additional stages involved in fully validating a new prototype. This process should involve using the exemplar categories as stimulus material for the induction of paranoia to examine whether central (more than peripheral) exemplars lead to the description of an experience as paranoia (Fehr, Russell, & Ward, 1982; Hassebrauck, 1997; Hepper et al., 2011; Kearns & Fincham, 2004; Kintsch, 1980); whether central (more than peripheral) exemplars are likely to induce paranoia; and to examine whether central exemplars induce paranoia at least as effectively as existing manipulations (e.g. Ellett & Chadwick, 2007). Such investigation would improve upon the ability to make more conclusive statements about the construct of lay conceptions of paranoia.

4.3 Strengths and Limitations of study

It is important that the findings are considered within the context of strengths and limitations of the study's methodology. These will be outlined next.

Sampling Methods

First, it is important to consider the strengths and limitations of the sample recruited for the service user involvement aspects of the thesis. This project used a student user group sample, largely made up of psychology students. These students would be more in tune with what would motivate psychology students to sign up for the studies rather than students from other departments. It would have been useful to include students from a range of other departments and members of the general population within the service user group to support recruitment of the general population.

Second, the number of participants recruited to the current study exceeded the suggested number recommended by the a priori power calculation for all three hypotheses. This is indicative of a sufficiently powered sample enabling the detection of any effects that were present and the reduction in the likelihood of a Type II error occurring. With regards to Hypothesis 2, which found a non-significant result, one possible explanation may have been that this specific test was underpowered so unable to detect a difference. However, previous research found effects of $f = .5$ (Seuntjens et al., 2015) and Study 2 had good power (a good chance of achieving a statistically significant result) with $N = 125$, so the fact an effect was not found is meaningful. From a theoretical perspective it makes sense that a significant difference would be observed between central and peripheral features on correct recognition. However, it is possible this finding indicates something specific about the nature of the construct of paranoia, but as mentioned there are inconsistencies within the prototype literature as to what has been found with regards to correct recognition. It is therefore hard to explain this pattern of results based on current theory.

Third, the thesis used under optimal convenience sampling (Barker et al., 2003) for all three parts of the project, but benefitted from the cost and accessibility advantages that this sampling strategy provided. The sample was also self-selected. Research using opt in strategies have been found to include higher proportions of individuals with some level of psychological difficulty (Freeman, Garety, Bebbington, Smith et al., 2005). That said, the present study was advertised with no reference to psychological theory, and was instead advertised as ‘Individual Attitudes and Differences’ to reduce this effect. Despite thinking carefully about how the study was advertised, the wording of adverts and brief descriptions still may have had some

impact on who decided to partake, thereby impacting upon the conceptions of paranoia obtained. Additionally, so as not to be constrained by a purely student sample, other methods were employed to recruit participants, including the use of Facebook and other social media sites. It is possible that these methods, which could have included acquaintances or family members connected to the researchers, may mean that the sample was not truly representative of the general population.

Sample

As mentioned, this group of studies focused on the content of general paranoia as described by a large proportion of psychology undergraduates (approximately 70% of the total sample). Psychology students might be expected to be more likely than other members of the general population to view paranoia from a clinical perspective. This may have the effect of reducing generalisability of the current study to other samples and means the paranoia prototype may not be truly representative of lay views. Future research should include a larger broad sweeping sample of the general population to enhance the reliability and validity of the paranoia prototype.

The majority of participants in this thesis also classed themselves as Caucasian (83%), with only small percentages of other ethnicities being represented, again reducing the generalisability of the findings to other samples. The small samples from other ethnic groups also meant that cultural differences within the current sample could not be explored. This is particularly pertinent as there are uncertainties around whether emotion concepts are culturally specific or have pan-cultural components (Russell, 1991). Furthermore, when considering current literature, it is possible that cultural

differences do exist within conceptions of paranoia. Increased prevalence of paranoia in ethnic minority groups has been found at the more extreme end of the nonclinical continuum (Freeman et al., 2011). More specifically, many of the environmental conditions that ethnic minorities face, such as low socioeconomic status (SES), poverty, discrimination, social isolation, and the stresses of immigration, have all been related to cultural mistrust and suspiciousness (i.e. subclinical paranoia, Fenigstein, 1998). Within clinical populations, ethnicity has been identified as a crucial moderator variable for differences in the expression of psychopathology (Carter, Miller, Sbrocco, Suchday & Lewis, 1999). Despite clinical paranoia being observed around the world, there is evidence to suggest that it does not manifest itself in the same way across cultures, as categorical classification systems would suggest. Different cultures display different symptoms and manifestations of paranoia, often due to cultural norms and the socio-centricity of a culture (Bauer et al., 2011), as well as there being varying influences on diagnosis and treatment (Banerjee, 2012). However, as cultural differences within the current sample were not explored, it is not known whether differences captured within clinical populations exist within lay views of paranoia. As with other prototype analyses that have explicitly compared differences between ethnic groups within samples (Kearns & Fincham, 2004) and cross-culturally (Morgan et al., 2014), future research could uncover cultural differences within lay conceptions of paranoia. This could facilitate an increased understanding and awareness of culture, its impact on lay conceptions and how it affects psychopathologies at the extreme end of the continuum.

As well as ethnicity, the study did not include analyses of any other individual difference factors that may have been present within the prototype. As discussed in

the introduction the role of levels of anxiety has been demonstrated to be central to the formation and maintenance of persecutory delusions (e.g. Bebbington et al., 2013; Freeman, Brugha, et al., 2010; Freeman, Pugh et al., 2008). Additionally, other individual differences such as age, gender and religious background have been shown to be differentially associated with both clinical (de Portugal et al., 2010) and nonclinical (Hirschfield et al., 2005; Mata, Mataix-Cols, Peralta, 2005) paranoia. However, because these differences were not included in the study design, the present project cannot provide comment on the potential individual differences that may or may not exist within lay conceptions of paranoia or whether such differences parallel those observed within nonclinical or clinical paranoia literature. It would therefore be highly recommended that the next steps to develop research in this area consider individual difference factors within the prototype of paranoia, as the prototype may change as a function of such differences. This is particularly important due to the fact that not everybody views paranoia in the same way.

Measures

Another limitation of the thesis was that current or past experience of psychosis was not considered as part of the participant exclusion criteria and no screening measure was employed to ensure that this research sampled a truly nonclinical population. A more stringent methodology could have been applied such as using the Structured Clinical Interview for DSM-IV Axis I disorders (SCID-I; First, Spitzer, Gibbon, Williams, 1997) administered by trained personnel, although resources to be able to do this were limited in the present study. Obtaining this information may have allowed us to consider results along the paranoia continuum and comment on possible

differences within conceptualisations across the population depending on people's personal experience of paranoia. This is another area for future research to consider examining.

Methodology

Using prototype methodology to define a concept also presents its own strengths and limitations. As with other natural language concepts (Rosch, 1978), it seemed as though the construct of paranoia lent itself well to being conceptualised as an indistinct category. Prototype methodologies provide both structural flexibility and inclusiveness to a concept. This was particularly relevant given that researchers and clinicians had recognised degrees of paranoia and apparent heterogeneity of the concept. Indeed, within this study, prototype methodologies have gone some way towards enabling paranoia's inherent complexity to be captured, thereby improving the coverage of the definition. However, general criticisms of the prototype approach, also apply to this study. For example, the prototype of paranoia could be criticised for lacking clarity and detail about the precise definition of the 'prototype' itself. More specifically, it could be criticised for adopting an idiosyncratic range of critical features (Armstrong et al., 1983), as although certain features appear to be more central than others, it is difficult to establish which ones truly take priority when considering category membership. The study acknowledges that the process around categorisation of concepts is a complex one, however this remains to be a point of contention within concept literature.

This project was based on Hepper et al.'s (2011) methodology, however a general criticism of prototype theory is that there are a range of methodologies and analyses employed across the literature. For example, a range of methodological techniques have been used to illustrate the internal structure of different constructs, such as examining reaction time (Fehr & Russell, 1991; Gregg et al., 2008), recall memory (Fehr, 1988; Kearns & Fincham, 2004), recognition memory (Fehr, 1988; Kearns & Fincham, 2004; Lambert et al., 2009) and lexical decision tasks (Fehr & Russell, 1991). The greater the convergence of measures of internal structure, the greater the confidence with which one can argue that a concept is prototypically organised. It is possible that employing alternative methods other than ones used by Hepper et al. (2011) may have resulted in different central features for the construct of paranoia emerging. However, there are not currently criteria for determining which methods are most suitable. It could be that different methods are more appropriate for different constructs, but at present this has not been examined so remains unclear. There is need for further investigation to review and reach some level of agreement around the preeminent approaches to developing and validating prototypes, for a gold standard to be found. In spite of these potential methodological limitations, the prototype of paranoia is a first step in better understanding the structure of the psychological construct.

As previously mentioned, this project only garnered a subjective sense of whether features of paranoia were positive or negative. Previous prototype research has examined this using varying methodological approaches. For example some studies have prompted participants to '*remember that features listed can be positive or negative*' (Fehr & Russell, 1984; Kearns & Fincham, 2004; Neto & Mullet, 2014) and

then elicited a rating on a Likert scale from extremely negative to extremely positive. Other studies have explicitly asked participants to list both positive and negative characteristics that come to mind, forcing participants to consider the concept from both perspectives (Seuntjens et al., 2015). This could also be achieved by probing participants about potential causes and consequences of paranoia. If future investigations were to implement such methodologies, researchers would then have a more accurate understanding of whether lay conceptions include positive views of paranoia or not. This would allow for more in depth comparisons to be made with the current literature.

A key methodological challenge of this research is unpicking whether the question asked in Study 1a (i.e. asking participants to list features and characteristics that, in their opinion, best described and distinguished paranoia) accurately elicited the concept in question. The information sheet did not cue participants into their experiences of paranoia and the term paranoia within the instructions could have been interpreted in a number of different ways. For example, with the majority of participants being psychology students they might have naturally conceptualised paranoia from a clinical perspective. The investigation was therefore into paranoia broadly rather than lay paranoia per se. Such issues could contribute to explaining why adaptive or societal aspects of lay paranoia were not accessed and provide reason as to why a clinical, more intrapersonal view was obtained. However, if explicitly probed about their understandings of paranoia as used in everyday language, participants might have listed different or additional features. Given the well accepted dimensional view (Chapman & Chapman, 1980, Claridge, 1997; Johns, 2005; Peters, Joseph, & Garety, 1999; Roesler et al., 2007; Rossler et al., 2011; Van Os & Verdoux,

2003) it is conceivable that different perspectives of paranoia may not have clear distinctions, however this cannot be assumed and this was not clear given the results found within this project. Future research could embed the term ‘paranoia’ within a contextualised sentence to ensure that what was being elicited was the cultural lexicon of the now widely used word ‘paranoia’. Instructions could describe an example situation and then explore the participants’ understanding of this. For example, *‘When someone says to you “why are you being paranoid?” or “don’t be paranoid”, what do you understand that person to mean?’*. In addition to this researchers could get people to list their own experiences of paranoia. These alternative approaches would ensure that particular conceptions of paranoia were explicitly probed. This would enable researchers to draw out differences between perspectives, if true differences exist.

These adaptations to the methodology would additionally allow for consideration of context within lay conceptions of paranoia. Prototype theory anchors the ideational content of the concept, without excluding variants, and does not deem difference as deviant (Fox, 2011). This means that prototypical definitions rely heavily on context and are significantly subject to social flux. The fact prototypes are contextually variant can be seen as both a strength and a limitation of prototype methodology. These issues mean prototypes may be particularly sensitive to methodological approaches, such as how questions are framed to elicit prototypic features. It is very plausible that the lay paranoia prototype may differ across different contexts. More specifically, people may conceptualise paranoia differently in the context of different types of relationships. For example, paranoia within a romantic relationship may be very different from paranoia within a social situation with friends. This highlights the

importance of establishing the context in which the term is used, (e.g. embedding it within a contextualised sentence) as this may impact on the results obtained. Once researchers are confident that they have obtained the cultural lexicon of lay paranoia used within everyday conversation, future research would then be able to examine the stability of the paranoia prototype across different situations to examine prototypical paranoia types.

Given the challenges presented around accurately obtaining the construct of lay paranoia, it is possible that eliciting the true meaning behind lay conceptions of paranoia is not best suited to prototype methodology. Paranoia differs from other emotion concept prototypes established in that it has backgrounds in both clinical and societal domains. This may add complexity and make it less suitable to being captured within one prototype. Qualitative interview approaches may be more suitable for generating information about a construct, as has been done with service users' experiences of clinical paranoia (Boyd & Gumley, 2007; Carrick et al., 2004; Hirschfield et al., 2005; McCarthy-Jones et al., 2013; McNally & Goldberg, 1997). Research into the area of lay paranoia is novel and future investigation should consider implementing qualitative techniques and the possible benefits that these approaches may provide.

Despite this study's contribution to systematically examining laypersons' understandings of paranoia, as mentioned, the project only completed the initial steps involved in the validation process. Further validation of the prototype was beyond the scope of this study. This means conclusions that the study can draw around the validity of the paranoia prototype are limited. As discussed, it will be important that

future research completes the additional steps specified for validation by previous prototype analyses (Fitness & Fletcher, 1993; Hepper et al., 2011; Kearns & Fincham, 2004; Lambert et al., 2009). Additionally, the results from the current thesis do not inform us as to whether features of paranoia are interrelated. Future research could explore the dimensions underlying participants' descriptions of paranoia by employing similarity ratings, as done in previous prototype analyses (Xu et al., 2008). The completion of these steps is fundamental for the paranoia prototype to gain further legitimacy. Once more thoroughly validated the potential utility that the prototype may have in therapeutic settings can be more systematically explored.

4.4 Theoretical and Clinical Implications

Although the current study treats lay conceptions of paranoia as a topic of interest in its own right, it is important to consider some tentative theoretical and clinical implications of the findings.

Theoretical implications.

How can a prototype analysis of lay conceptions of paranoia inform paranoia research?

This is the first study to systematically examine laypersons' understandings of paranoia. As such, it plays an important role in allowing us to begin to determine whether laypersons' conceptualisations of paranoia correspond to existing theoretical and scientific approaches to the construct. Researchers have offered a number of definitions in an attempt to outline what is and what is not to be included under the term *paranoia*. Despite developments in the understanding of paranoia, there is also

recognition of remaining methodological flaws and pitfalls (Freeman, 2007). In particular, the tendency for research to ignore the multi-dimensional nature of paranoia or define the phenomena in detail has been highlighted. Although the current findings indicate that there is much overlap between lay conceptions of paranoia and theoretical accounts, they also indicate that there are differences. These differences include the paranoia prototype implying mental illness and not featuring evolutionary or functional perspectives of paranoia. This raises the issue of what the relationship should be between lay conceptions and scientific definitions. Stated differently, how can lay conceptions of paranoia contribute to theory and research about paranoia?

As highlighted in previous prototype analyses, there are a number of potential answers to this question (Fehr & Russell, 1991). At one extreme is the position that lay conceptions of paranoia are irrelevant to science and therefore should be ignored. This view postulates that discrepancies between theoretical and lay conceptions are deemed irrelevant to science. At the other extreme is the position that lay conceptions of paranoia are essential to the experience of paranoia, thus the scientific study of paranoia is the study of the concept of paranoia. From this standpoint, inconsistencies between scientific and lay conceptions demonstrate flaws in theoretical accounts. Finally, there is a middle position between the two extremes, which is that scientific analysis depends on everyday concepts, which can organise and improve these constructs (Fehr & Russell, 1991). In this section, attempts will be made to integrate these positions, as none of these positions in isolation is adequate.

Addressing definitional issues.

First, the present findings can inform definitional issues. Researchers who study everyday social phenomena, of which paranoia is one example, need to define them conceptually (Cronbach & Meehl, 1955), which is a challenge because definitions must reconcile the tension between two vital criteria - rigour and coverage. Empirical research on this important social phenomenon was yet to examine how individuals in the general population define and conceptualise paranoia, which was needed to reflect the construct's broad societal and cultural significance. The paranoia prototype means we are now able to describe lay views of paranoia in a way that balances the demands of scientific validation and comprehensive coverage. That is, we have identified and begun to validate a set of operationalisable prototypical features, while reflecting the richness and diversity of laypersons' conceptualisations. Existing medical diagnostic criteria (e.g. DSM-V; APA, 2013) and current theoretical definitions (e.g. Freeman & Garety, 2000) focus on defining persecutory delusions and could be criticised for overly prioritising rigour over coverage. They reference a perceived sense of threat or harm, the sense of distress that may accompany such beliefs and the conviction within which paranoid beliefs are held. However, those definitions omit other prototypical features and assume a standardised and classically defined paranoia experience. The prototype of paranoia is complex and provides no sharp boundary between paranoia and other, related experiences. The present empirical approach suggests that a clear-cut classical definition does not adequately capture the structure of paranoia seen from the perspective of lay people, and calls instead for a description that reflects the prototype better.

In addition to improving the definitional coverage, the finding that paranoia is prototypically organised fits with a dimensional theoretical view of paranoia (e.g.

Costello, 1994; Mason & Claridge, 2006; Roessler et al., 2007; Rossler et al., 2011).

The prototype structure provides representation of paranoia that is able to support the continuum hypothesis and represent aspects of paranoia's multidimensionality, where classical conceptions have struggled. Rather than focusing on single aspects, the prototype is generative and provides a set of related but distinguishable terms that can punctuate meaningful points along the continuum.

The fact that mental illness and delusions were central features of the prototype suggests that participants naturally conceptualise paranoia from a clinical standpoint. This finding is also suggestive that people conceptualise everyday experiences as different from paranoia. Despite this outcome being counterintuitive to a continuous relationship (Mason & Claridge, 2006), caution must be taken due to the nature of the sample population. Additionally, other features of the prototype were more indicative of a dimensional view and mirrored findings within the continuum literature. For example, central features, such as social isolation, demonstrated commonality between risk factors for both nonclinical and clinical paranoia found within empirical literature (Myin-Germeys, Krabbendam & van Os 2003). Anxiety and thinking error features also reflected cognitive affective variables implicated in the formation and maintenance of paranoia along the continuum (Allen, Freeman, Johns & Maguire, 2006; Bebbington et al., 2013; Freeman et al., 2011). If the cultural lexicon of lay paranoia was specifically elicited, future research could serve to elucidate the crossover between the current paranoia prototype and a lay paranoia prototype. Comparisons between overlapping constructs have been examined within previous prototype analyses (e.g. love and commitment) (Fehr, 1988). Such developments have the potential to further our understanding of how lay conceptions fit with existing

theoretical continuum views, and inform possible distinctions within the dimensional view itself (Costello, 1994).

More broadly speaking, it is also pertinent to consider the literatures approach as a whole to theorising paranoia and the possible implications of such standpoints. It could be argued that the way paranoia has been conceptualised to enable considering it as part of general experience means that some qualities of the construct are lost along the way. For example, when considering Freeman and Garety's (2000) criteria for defining persecutory delusions (one of the most widely accepted definitions), some may postulate that in their efforts to accommodate a view of paranoia as a common psychological process, the delusional aspects of paranoia have been lost. That is, they do not include anything about the belief being unfounded. This has implications for research that has used the definition and measures of paranoia. It will be important for literature to consider the wider implications involved in conceptualising paranoia as on a continuum and to review the possible definitional pitfalls of trying to capture the breadth of the whole construct in different ways.

Implications for the assessment, manipulation and measurement of paranoia.

First, many existing studies into nonclinical paranoia present with methodological drawbacks (Freeman et al., 2008). The challenge has been that there are discrepancies between accounts of paranoia itself (Freeman & Garety, 2004) and literature has had a tendency to ignore the multi-dimensional nature of the experience of paranoia (Freeman, 2007), often making it unclear what exactly is being measured. An informal classification system can be traced within the paranoia literature, in which

terms such as paranoid or paranoid-like cognitions/thoughts/ideation/suspicions are often used to refer to non-clinical experiences. However, these terms have not been defined and there is no consensus as to how they relate to, and are distinguishable from, one another (Freeman, 2007). Not only are there inconsistencies in the terms used, there will also be inherent differences in how terminology is interpreted by different individuals. As has been demonstrated, paranoia means different things to different people. The prototype is informative, as it has given us insight into the interpretations people might make when the term *paranoia* is used within research, which are perhaps different from those intended. Research is yet to understand how people interpret other terms frequently used to describe paranoia within nonclinical literature. Future investigation into this area would further inform the measurement of paranoia and related constructs.

Second, when considering the measurement of paranoia, recent literature has highlighted a need for measures to be specific to current definitions and for such tools to be informed by lay perspectives. There are currently a number of measures available that have attempted the former and moved away from widely used one-dimensional models (e.g. Fenigstein & Vanable's Paranoia Scale (PS; 1992)). The Green et al Paranoid Thought Scales (GPTS; Green et al., 2008) and the General Paranoia Scale (GPS; Barreto Carvalho et al., 2015), for example, both have endeavoured to make measures which are specific to Freeman and Garety's (2000) definition of paranoid thoughts, in terms of being dimensional in content (i.e. consider a hierarchy of paranoid thoughts), and severity (assesses preoccupation, conviction and distress) and valid and reliable for both clinical and nonclinical populations. The paranoia prototype supports this move to measuring a construct that is multi-

dimensional in nature. Despite improvements in measuring paranoia multi-dimensionally, further refinement and enrichment of this process in different populations is necessary. For example, measures have been developed that are informed by service-user perspectives within clinical populations, such as the Subjective Experiences of Psychosis Scale (SEPS; Haddock, et al., 2011). However there is also a need to develop scales that have taken account views of people within the general population. The prototype has the potential to inform development of such a measure and to improve the accessibility of measures by incorporating features of the prototype within the wording of questionnaires. This would further inform the assessment of dimensions of paranoia and the potential risk of clinical paranoia in a measure for the general population.

Prior studies have relied on the term paranoia both to measure and to induce the experience. Therefore, results depended on participants having a clear and consensual understanding of the word, and, possibly were vulnerable to demand characteristics. This study has laid the foundations for future research to provide participants with a collection of layperson accessible features of paranoia instead of using the word paranoia. This has the potential to reduce demand characteristics and support the study of paranoia in different populations (e.g. different languages, children). For example, a manipulation or measure using the set of prototypical features would be more accessible for those less familiar with the subtle meaning of the word paranoia. Future research would need to consider whether comparable results are obtained regardless of whether participants are given the word *paranoia* or a set of central features. Furthermore, it may be difficult to directly translate the term paranoia into other languages; the paranoia prototype features could enable investigation of the

prototype of paranoia across cultures, and could be instrumental for studying the functions of lay conceptions of paranoia in cross-cultural contexts in the future.

Although paranoia was seen as largely negative within this study, this does not mean that it is necessarily conceptualised in the same way across different cultures.

Prototype analyses may be used to highlight differences in the way in which a concept is understood cross-culturally or in different populations (Fehr, 1988).

Supplementing existing definitions and theoretical conceptions.

The prototype of paranoia complements current literature that proposes that no single criteria signals paranoia (Freeman, 2007), but that the experience of paranoia is a complex and dynamic experience that demonstrates huge individual variability. The prototype provides further credibility to the view that there exists a multiplicity of valid explanations for such experiences, which encompass not only the medical but, also a variety of other standpoints. Lay understandings uncovered using the prototype theory provide structural flexibility and inclusiveness and a prototype that is able to complement existing definitions. As Armstrong et al. (1983) propose there is perhaps not one ‘general theory’ of categorisation that subsumes all different domains of a concept, but rather prototypes such as this one that help inform theoretical and psychiatric systems already proposed; for example, offering support for current theoretical definitions that have moved away from needing to determine a set of criteria with which to judge falsity (Coltheart, 2007). Clore and Ortony (1988) further this argument by stating that the goal of prototype theory is not to define the emotion, but to discover the structure of the psychological condition to which such words apply. Therefore, what is being uncovered within prototype approaches are not

necessarily new concepts of emotions, but explications of what is assumed to be inherent in the existing meanings of emotion terms (Clore & Ortony, 1988).

Additionally, this project acts a reminder that a concept might contain multiple prototypes (Fox, 2011). Future research could look to validate a prototype of paranoia that is complementary rather than a competitor of other theoretical conceptions, with neither being paramount. As a result a greater understanding could be established around how these different definitions fit together and inform one another.

Summary of theoretical implications.

Uncovering a paranoia prototype has helped lay the groundwork towards developing a better empirical and theoretical understanding of a term prevalent in people's everyday life. Improving the coverage, clarity and coherence around the definition from a lay perspective has the potential to have positive methodological implications for the measurement of paranoia, namely by enabling future research to manipulate and measure paranoia using prototypic features. It also instigates the initial steps in providing a lay definition that has the potential to supplement existing definitions. Additionally, the shift to viewing paranoia on a continuum (Roessler et al., 2007; Rossler et al., 2011) has meant that researchers have been searching for a universal definition that is able to accommodate such variance and multidimensionality, as well as experiential perspectives across the continuum. It is unlikely that one definition alone will subsume all of these aspects. However, the prototype of paranoia offers important acknowledgement of different perspectives and has the potential to supplement existing definitions in ways that current conceptualisations do not.

Clinical Implications.

Above other strengths, this study acts as promoting lay views, highlighting the importance and utility of acknowledging different perspectives other than dominant psychiatric and theoretical narratives. It is now clear that paranoia has an everyday layman's meaning as well as the established theoretical (Freeman & Garety, 2000) and psychiatric categorisations (DSM-V, APA, 2013). This thesis indicates that these definitions overlap extensively, but that there are aspects of lay conceptualisations that are not emphasised in existing categories and vice versa. The theoretical and psychiatric definitions available are limited. The prototype uncovered reminds us that the various terms usually employed to describe paranoia (or features of paranoia) are themselves complex. Within themselves each feature may also fluctuate in severity across time within an individual (Ellett et al., 2003). Each of these facets can exist on various levels of severity. In a given individual it is important to treat features as distinguishable dimensions and recognise that some individuals will fit this paranoia prototype more closely than others. With this in mind, possible clinical implications of this thesis will now be discussed.

Psycho-education and therapeutic intervention.

In contrast to categorical views of paranoia that purport the experience as being qualitatively different from normal experiences, the ultimate aim of the integration of nonclinical paranoia research and treatment programmes for paranoia is that the word 'paranoia' would not imply mental illness, but would rather describe an ordinary psychological process characterised by a perception of planned intention to harm by

others (Ellett & Chadwick, 2007). The paranoia prototype is both supportive and challenging to the notion that laypeople are conceptualising paranoia in this way. The fact that lay conceptions appear to have a prototypic structure is supportive of a more dimensional view of paranoia, however the prototype developed also seems to view paranoia as implying mental illness, at least for some. The psychiatric view still permeates lay perspectives. In future, the paranoia prototype could support the normalising agenda (Freeman & Freeman, 2008), by using a range of central features to talk about paranoia, normalise the experience and enhance education. More specifically, features of the paranoia prototype could inform psychoeducational tools and self-help books (e.g. Freeman, Garety, & Freeman, 2012). Such resources aimed at individuals with nonclinical (and clinical) paranoia could include prototypic features to ensure language is representative of the lay view.

As well as implying mental illness, the paranoia prototype also demonstrates that people do not naturally think of positive adaptive aspects of paranoia. Despite much theoretical and empirical evidence for the evolutionary perspective, it appears these views are not spontaneously elicited within lay populations. It may be necessary for clinicians to acknowledge the fact that lay conceptions just do not feature adaptive of nonclinical aspects of paranoia particularly as many treatment approaches to psychosis include a normalising component aimed at educating the individual about dimensional views (Johns & van Os, 2001). This includes reducing self-stigma through imparting an appreciation of the symptoms of psychosis being present in those without a mental illness diagnosis, as well as laying them open to rational argument thereby bringing them into the realm of normal human experience. A normalising approach is now common in Cognitive Behavioural Therapy (CBT;

Kingdon & Turkington, 1994) and modified CBT for Psychosis (CBT-P; Fowler, Garety, & Kuipers, 1995; Sensky et al., 2000) and has been shown in empirical trials to help individuals with psychosis (e.g., Kingdon & Turkington, 1991; Kingdon & Turkington, 1994; Sensky et al., 2000). The normalising approach within treatment is particularly important given that research evidence from numerous quantitative and qualitative studies have shown that stigma towards individuals with psychosis is commonplace in members of the general population (Penn & Martin, 1998), and even within mental health professionals themselves (e.g. Faugier & Sargeant, 1997; Rao et al., 2009). However, clinicians' attempts to implement a normalising approach could feel incongruent to individuals particularly if lay conceptions just do not feature positive or adaptive aspects of paranoia. Indeed, findings from the prototype analysis of paranoia were both encouraging and discouraging with regards to the normalising, anti-stigma movement. Evidence of stigmatising views were highlighted within this research, as pejorative features (e.g. weird/mad, evil) were shown to be included within the prototype. Although these features were fairly frequently cited, they were rated as peripheral to people's understanding of paranoia. This is encouraging for anti-stigma campaigns as prototype theory would suggest that peripheral features are less salient in people's mind and less frequently recalled or recognised as being associated with paranoia. However, it is possible that if the study were to be repeated solely within the general population such features may be rated as more central to people's conceptualisations of paranoia.

Additionally, the presence of negative and pejorative features within the prototype could also be representative of some resistance to the anti-stigma campaign. Such findings could provide evidence that sensationalised media coverage about issues like

schizophrenia, actually reinforce negative connotations of paranoia and maintain depreciatory views within society, over and above anti-stigma campaign material. As mentioned, it is possible that other factors influence recall and recognition of different types of material, which may override normal processing of prototypes; for example, feature valence or the frequency with which people are exposed to different types of information. It was beyond the scope of this project to examine these issues. However if such factors do play a part, media coverage surrounding schizophrenia including words such as ‘evil’ or ‘mad’, are powerful messages that it would be hard for anti-stigma campaigns to compete with. One possible application of the prototype to target this issue could be to tailor literature within campaigns to ensure language used is not too far removed from the clinical view (central features) to prevent people from relating to it. This would facilitate anti-stigma messages to be more readily encoded and thus more accessible in memory. This may have the added benefit of supporting a shift in people’s views towards central features of paranoia and away from more stigmatising peripheral features that appeared within the prototype.

In summary, it is hoped that findings from the current research can contribute to a drive for less stigmatising views towards those who do experience persecutory delusions, in line with movements in mental health provision toward Recovery models for severe mental health (e.g. Anthony, 1993; Repper & Perkins, 2003) and wider psychological provision that focuses on social inclusion (e.g. BPS, 2008).

4.5 Conclusions

The primary purpose of the current project was to examine lay conceptions of paranoia in order to develop and validate a prototype of the construct and thereby

understand how individuals themselves define and conceptualise paranoia. Whilst acknowledging the limitations outlined, several conclusions can be drawn from the current study that include novel contributions to the literature. The results of this series of studies provide initial support for the idea that people have and use a prototype for paranoia. We found that lay views of paranoia have an internal structure that meets the two criteria for prototypic organisation. More specifically, participants made meaningful and reliable decisions about the degree to which various features are central (important or essential) or peripheral (less important or essential) to their understanding of the concept of paranoia. Additionally, feature centrality affected the way that participants processed information about paranoia. Despite the need for further validation, the prototype provides an important step in promoting lay views, thus highlighting the importance and utility of acknowledging different perspectives other than dominant narratives. In addition to this, it acknowledges the similarities and differences between lay conceptualisations, theoretical, and professional perspectives. The lay paranoia prototype offers initial ideas around providing a framework for improvements to the definition, measurement and investigation of paranoia. More specifically it lays foundations for future research to investigate the role that the paranoia prototype could play in furthering the understanding of paranoia more generally, which may have important theoretical and clinical implications.

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Appendices

Appendix 1: Socio-demographic information sheet

Please specify your ethnicity by circling one of the options below:

White/Caucasian

Hispanic/Latino


Black African/Caribbean

Asian

Multiracial

Other

Appendix 2: Information Sheet Study 1a


Department of Psychology
Royal Holloway, University of London
Egham, Surrey TW20 0EX, UK

Information Sheet
Attitudes and Individual Differences

My name is Daniel Ruth and I am a 2nd year student of Psychology at Royal Holloway, University of London. I am carrying out a study examining how we understand and define paranoia, supervised by Dr Lyn Ellett. If you would like to discuss any aspect of the research with Dr Ellett, you can contact her by email (lyn.ellett@rhul.ac.uk) or by phone on 01784 414049. If you need to contact me, please email (Daniel.Ruth.2012@live.rhul.ac.uk). I would appreciate your participation, because it is important that we understand more about how everyday individuals understand the term paranoia, rather than relying on definitions provided by academic researchers.

If you decide to take part, I will ask you to complete one questionnaire, which will ask you to list characteristics that you think describe and distinguish paranoia. This will take around 5-10 minutes. Nobody except myself and my supervisor will be allowed to see your questionnaire and in the study you will be known only by number. So the information is completely confidential.

You do not have to take part in this study if you don't want to. If you decide to take part you may withdraw at any time without having to give a reason. Your decision whether or not to take part will not affect your education in any way.

Please keep this part of the sheet yourself for reference. Please feel free to ask any questions before you complete the consent form below, then tear off and hand the completed consent form to the researcher. It will be stored separately from the anonymous information you provide for the research project. This study has been reviewed and approved by the Psychology Department internal ethical procedure at Royal Holloway, University of London.

Consent form ID number 16

Attitudes and Individual Differences

You have been asked to participate in a study about (fill in here), which is being carried out by (insert your name here). Have you (please circle yes or no):

- Read the information sheet about the study? yes no
- Had an opportunity to ask questions? yes no
- Got satisfactory answers to your questions? yes no
- Understood that you're free to withdraw from the study at any time, without giving a reason (and without it affecting your care/ education if applicable)? yes no

Appendix 3: Study 1a participant instructions

(202)

Attitudes and Individual Differences

This questionnaire is part of a larger project on the sorts of things we have in mind when we hear and use words. For example,

If you were asked to list characteristics of democracy, you might write:

- freedom
- elections
- equality
- liberty

In your opinion, what features describe PARANOIA? In the following space, please write down all characteristics which distinguish PARANOIA. In the next 5 minutes, please list as many features as you can. Remember, there are no rights or wrongs.

→ overthinking
→ Misinterpretation

Appendix 4: Information Sheet Study 1b

Department of Psychology
Royal Holloway, University of London
Egham, Surrey TW20 0EX
www.royalholloway.ac.uk/psychology

+44 (0) 1784 443526
PSY-enquiries@rhul.ac.uk



Information Sheet Attitudes and Individual Differences

My name is Hannah Stringer and I am a research student at Royal Holloway, University of London. I am carrying out a study on how we understand and define paranoia supervised by Dr Lyn Ellett. If you would like to discuss any aspect of the research with Dr Ellett, you can contact her by email Lyn.Ellett@rhul.ac.uk. If you need to contact me, please email Hannah.Stringer.2013@live.rhul.ac.uk or call 01784 414012. I would appreciate your participation, because despite the experience of paranoia being common in the general population, no lay definition exists. The study will help develop such a definition and aid the understanding of paranoia for future research.

If you decide to take part, I will ask you to provide some brief information about yourself. You will then be presented with a list of characteristics that describe paranoia, and will be asked to rate how important you think each one is to your understanding of paranoia. This will take around 10 minutes. Nobody except my supervisor and myself will be allowed to see your responses and in the study you will be known only by number. So the information is completely confidential.

You do not have to take part in this study if you don't want to. If you decide to take part you may withdraw at any time without having to give a reason.

Please feel free to email me to ask any questions before you complete the consent form and the study. This study has been reviewed and approved by the Psychology Department internal ethical procedure at Royal Holloway, University of London.

✂.....

Consent form
number.....

ID

Attitudes and Individual Differences

You have been asked to participate in a study about attitudes and individual differences, which is being carried out by Hannah Stringer. Have you (please circle yes or no):

- Read the information sheet about the study? yes no
- Understood that you're free to withdraw from the study
at any time, without giving a reason? yes no

Do you agree to take part in the study? yes no

Signature _____

Name in block letters _____

Appendix 5: Information Sheet Study 2

Department of Psychology
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+44 (0) 1784 443526
PSY-enquiries@rhul.ac.uk



Information Sheet Attitudes and Individual Differences

My name is Hannah Stringer and I am a research student at Royal Holloway, University of London. I am carrying out a study on how we understand and define paranoia supervised by Dr Lyn Ellett. If you would like to discuss any aspect of the research with Dr Ellett, you can contact her by email Lyn.Ellett@rhul.ac.uk. If you need to contact me, please email Hannah.Stringer.2013@live.rhul.ac.uk or call 01784 414012. I would appreciate your participation, because despite the experience of paranoia being common in the general population, no lay definition exists. The study will help develop such a definition and aid the understanding of paranoia for future research.

If you decide to take part, I will ask you to provide some brief information about yourself. You will then be presented with statements about Paranoia and asked to complete a series of short tasks. This will take around 30 minutes and will be held in the Bowyer Building at Royal Holloway University. Nobody except my supervisor and myself will be allowed to see your responses and in the study you will be known only by number. So the information is completely confidential.

You do not have to take part in this study if you don't want to. If you decide to take part you may withdraw at any time without having to give a reason.

Please feel free to ask any questions before you complete the consent form. The form will be stored separately from the anonymous information you provide for the research project. This study has been reviewed and approved by the Psychology Department internal ethical procedure at Royal Holloway, University of London.

✂.....

.....
Consent form
number.....

ID

Attitudes and Individual Differences

You have been asked to participate in a study about attitudes and individual differences, which is being carried out by Hannah Stringer. Have you (please circle yes or no):

- Read the information sheet about the study? yes no
- Had an opportunity to ask questions? yes no
- Got satisfactory answers to your questions? yes no
- Understood that you're free to withdraw from the study
at any time, without giving a reason? yes no

Do you agree to take part in the study?

yes no

Signature _____

Name in block letters _____

Date _____

Appendix 6: Debrief Sheet Study 1b



Royal Holloway, University of London
Egham, Surrey TW20 0EX, UK

Debrief Sheet

Attitudes and Individual Differences

Thank you for taking part in this study.

Paranoia is an everyday social phenomenon that is common in the population at large. In this study, you were asked to rate how important you thought a list of characteristics were to your understanding of paranoia. The reason we asked you to do this was because we want to establish a definition of everyday conceptions of paranoia. At the moment, the only definitions that exist are those provided by academic researchers, and we think it is important to develop a definition of paranoia that reflects how individuals themselves view this construct.

If you would like to discuss any aspect of this research with either myself, or my supervisor, please contact us using the details below:

Hannah.Stringer.2013@live.rhul.ac.uk

Lyn.Ellett@rhul.ac.uk or (01784 414049)

If the study has raised personal issues that you are not comfortable discussing with the researcher now, please see the support network telephone number below:

The Samaritans Telephone Number: 08457 90 90 90

Appendix 7: Debrief Sheet Study 2



Royal Holloway, University of London
Egham, Surrey TW20 0EX, UK

Debrief Sheet

Attitudes and Individual Differences

Thank you for taking part in this study.

Paranoia is an everyday social phenomenon that is common in the population at large. In this study, you were asked to recall statements that had previously been classified as either central or peripheral to our understanding of paranoia. We expect that the most central statements about paranoia will be remembered more easily. The reason we asked you to do this was because we want to establish a definition of everyday conceptions of paranoia. At the moment, the only definitions that exist are those provided by academic researchers, and we think it is important to develop a definition of paranoia that reflects how individuals themselves view this construct.

If you would like to discuss any aspect of this research with either myself, or my supervisor, please contact us using the details below:

Hannah.Stringer.2013@live.rhul.ac.uk

Lyn.Ellett@rhul.ac.uk or (01784 414049)

If the study has raised personal issues that you are not comfortable discussing with the researcher now, please see the support network telephone number below:

The Samaritans Telephone Number: 08457 90 90 90

Appendix 8: Neutral Word Search

T P B Y E R G H B S C B F R N I K J C G
 A A O N W O R B A U C I A S E N D O G N
 B P O S O F A E P N L R T D O T M W L I
 L E K D I A R Y T E D R E C G B T L H T
 E R M A C H I N E C I B K E I E A E O C
 H P A R G O T O H P A I A N N B W S L E
 B S R E T I R W E A N R A G T D O W I L
 G J K A C L O S E G I T A O K E L O D E
 G N I H C A E T R P I R O H N M L R A S
 C L O U D S Y C T O D F R O C O E B Y C
 E E L D N A H C N T B E I W T N Y R H O
 S E P A R A T E O O B H P I E S C E S M
 H H D G I D F C T M S I M N K T I P U M
 O I C R N V A T U U P R A D N R S M R A
 R X G T A I L N C R U U L O A A U U B S
 T B X H I E W L C O L E T W L T M J N C
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 T N A L P R S O R V T I S D R O W S A R
 S Q U A R E C W E H N O T T U B A H G D
 F L O O R P U S H E T K C O L B V L A S

AGAIN BADGE BASIC BEARD BLANKET BLOCK BOOKMARK BOTTLE BROWN BROWSE BRUSH BUTTON CAR CARDS CHAIR CHARACTER CLOSE CLOUDS COLOUR COMBINATION COMMAS	COMPUTER CUP CURLS CUSHION DANCE DEMONSTRATE DIARY DOG DRAG FILE FLOOR FOOTBALL GREY HAIR HANDBAG HANDLE HIGHER HOLIDAY HORSE JUMPER KNOCKING LAMP LEAVES LETTER LINE	MACHINE MUSIC NUMBER PAPER PHOTOGRAPH PLANT PUSH SCREEN SELECTING SEPARATE SHORT SOFA SQUARE STRIPES SWITCH TABLE TEACHING THROWING TOP TREE WINDOW WOOL WORDS WRITERS YELLOW
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Appendix 9: Ethics Approval Form

🔄 Reply all | 🗑️ Delete Junk | ⋮

Ref: 2015/032 Ethics Form Approved Subject to Amendment



psychology.it.support@rhul.ac.uk

20/04/2015

pava053@rhul.ac.uk; Ellett, Lyn; PSY-EthicsAdmin@rhul.ac.uk; Zagefka, Hanna; Lock, Annette; uqjt005@rhul.ac.uk



🔄 Reply all | ⌵

Thesis

Application Details: View the form click [here](#) Revise the form click [here](#)

Applicant Name: **Hannah Stringer**

Application title: **A Prototype Analysis of Paranoia**

Comments: Approved subject to amendment. This means you need to make the following amendment before you can start your research, but evidence of this does not need to be submitted to DEC.

Please include in your debrief contact info of mental help in case thinking about paranoia might have caused distress to some of the participants.

