EXPLORING A MEASURE OF MATERNAL ORIENTATION IN FIRST TIME MOTHERS

By

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Introduction

This masters course marked the beginning of my personal development in clinical psychology. Upon starting the course, I had three learning objectives. The first of these was to develop an understanding of the role of clinical psychology, and clinical research, in an NHS setting. The second objective was to diversify my experience of working with patient populations, and finally, to develop confidence and competence in conducting a research study and performing data analysis.

Prior to commencing the Clinical MRes, my professional clinical experience was heavily focused on work with Autistic Spectrum Disorders. Moreover, it was restricted to non-medical settings which prevented me from observing the role of the NHS, and clinical psychology, in the treatment of these disorders. Furthermore, with the intention of pursuing a career in clinical psychology, I deemed it important to broaden my patient interests, whilst also working in a variety of settings. Most importantly, I wished to take part in clinical research being conducted within an NHS setting out of personal interest. I aspire to a career as a clinical psychologist, however maintain strong enthusiasm for research. Being able to endorse both of these in a career would be ideal, thus, determining the possibility of this was an objective of this course.

My first placement focused on whether earlier intervention in psychosis would be advantageous. Having completed a psychosis module as part of my undergraduate degree, I felt well equipped for this placement. This placement allowed me to take my theoretical knowledge and apply it to a clinical research setting. I was able to interact with a new patient population and develop skills in recruitment. Furthermore, this placement provided me with invaluable training on standardized measures in psychosis. Due to the large team involved in this placement it was difficult to ensure that my personal development needs were met, thus I have learned the importance of regular supervision.

My second research project focused on Acute and Transient Psychotic Disorder in a Mother and Baby Unit, and the extent to which it overlaps with Postpartum Psychosis. This was a highly beneficial prelude to conducting my third, larger project. It enabled me to design and manage a project primarily on my own within an NHS setting. This project increased my confidence in my own abilities to identify a gap in research and design a study based on this. Moreover, it allowed me insight into the role of a clinical

psychologist, and a clinical researcher, in the NHS. Working with this team reflected the various roles of an interdisciplinary team whilst also allowing me to meet with inpatients experiencing psychosis. My first placement had focused on non-specific early symptoms of psychosis, whilst this second placement presented a logical progression into intense symptoms and their effects on an individual's life and functioning. Prior to this placement, I was less sensitive to the impact of mental illness on an individuals life. I am now more appreciative of this, a skill much required of a clinical psychologist, or researcher.

My final project sealed my confidence in my abilities to conduct and analyse research. This project involved active recruitment from the normal population in order to explore a measure of maternal orientation. Whilst I was able to draw upon my previous recruitment experience, I was also aware of my own hesitation to approach individuals in a less structured setting. Thus, it became a personal goal to improve my confidence in initially approaching potential participants. The final number of participants recruited into this study demonstrates to me that I achieved this goal. This project exposed me to the true nature of research; recruitment is often slow and frustrating, however the end result provides a sense of accomplishment.

A key learning curve from this study was maintaining an up to date database. In previous studies this was maintained by another individual, or not required. I now place great emphasis on my data input and will continue to do so in future employment. Having learned from previous experience, I was able to make much better use of supervision, resulting in a more comprehensive piece of work.

I initially expected a postgraduate course to be highly intense, however I was able to use my role on the course, and interest in research, to secure an honorary assistant psychologist position at the Barberry Eating Disorder Clinic. Without the Clinical MRes, I do not believe this would have been possible. Prior to this course, time keeping was a particular flaw of mine, however my determination to succeed in this field and welcome every opportunity available ensured that this skill was readily acquired. I am proud that I was able to complete my masters, as well as a six month assistant placement. This assistant placement allowed me to practice the skills I was acquiring on my masters in the workplace, whilst also furthering my understanding of clinical psychology, and broadening my client experience.

Overall, I believe I have completed the personal objectives I initially outlined for myself. I now have confidence in my own ability to conduct research. I broadened my patient experience whilst on the MRes, however this was also predominantly in psychosis, therefore I believe I should focus further on working with a variety of populations. I feel the MRes has provided me with a range of skills that would be essential for clinical practice and research. I have taken the theory from my undergraduate degree and used it in practice, making me a more well rounded researcher and person.

Chapter 1: The transition to psychosis of a girl initially presenting with depression and anxiety: Is preventative intervention in the treatment of psychosis necessary?

Introduction

"Psychosis" is an umbrella term used to describe a number of psychotic symptoms, such as hallucinations and delusions, which may affect perception, thinking, emotions and behaviour. Symptoms of psychosis typically emerge between the ages of 15-24, with an incidence of 31 cases per 200,000 in the UK (Kirkbride *et al.*, 2012). Episodes of psychosis can be caused by an underlying illness such as schizophrenia, however the presence of psychotic symptoms does not necessarily indicate mental illness. 5-8% of the general population experience psychotic symptoms such as hallucinating scintillations during a migraine (Allardyce, Suppes & Van Os., 2007), but are not considered mentally unwell (Kelleher, Jenner & Cannon, 2010).

For symptoms of psychosis to be considered severe, and receive medical intervention, they must be present for a prolonged duration, include positive symptoms and cause a decrease in psychosocial function (Yung & McGorry, 1996). Thus, many people experience mild psychotic symptoms with little or no intervention.

McGorry *et al.* (2006) argue that earlier intervention will result in less invasive treatments and substantially improve prognosis. McGorry *et al.* (2006) outlines four clinical stages of psychotic disorders. Stage zero characterises individuals not currently exhibiting psychotic symptoms, however have elevated risk due to immediate family members experiencing psychosis. Proposed stage zero interventions include mental health education, drug education, and brief cognitive skills training. Stage 1a identifies individuals experiencing mild decline in function or non-specific symptoms such as depression or anxiety. Whilst there is no guarantee these symptoms will progress to psychosis, cognitive-behavioural therapy and psychoeducation could reduce this risk. Stage 1b is the final stage preceding first-episode psychosis. It is termed the ultra-high-

risk stage. Yung *et al.* (2007) further specify that stage 1b individuals have a state, rather than trait risk; meaning current mental health is a risk factor. Yung *et al.*, (2010) argue that diagnostic manuals should include a "risk syndrome for psychosis".

State risk can be determined using the Comprehensive Assessment of At-Risk Mental States (CAARMS; Yung et al., 2005): a diagnostic tool assessing psychotic features, including perceptual abnormalities and non-bizarre beliefs. For individuals to be considered psychotic using this measure, symptoms must endure for one week and occur 3-6 times a week for over an hour, or daily for less than an hour. The CAARMS distinguishes individuals that would be considered psychotic, receiving an intensity value of 6, from non-psychotic individuals receiving an intensity value of 5 (severe). This is, however, a thin subjective margin. This assessment highlights individuals experiencing severe psychotic symptoms, however if they do not occur frequently enough to meet the psychotic intensity criteria, they will not receive the same treatment as someone with the same symptoms that may be marginally more frequent. Thus, McGorry *et al.*'s (2006) notion of treating ultra-high-risk individuals, rather than awaiting a first episode of psychosis, appears more credible.

In order to fully comprehend psychosis, as described in the literature, an in depth case study was conducted using the data from an individual that was assessed over twelve months. This case study demonstrates the various stages of psychosis, as outlined by McGorry et al (2006) and portrays an individual transitioning from the ultra-high-risk category, to first episode psychosis.

Case Introduction

The Transitions project at the University of Birmingham identifies individuals with non-specific symptoms, such as depression and anxiety, or specific psychotic

symptoms, through YouthSpace and follows their progress over a twelve month period. YouthSpace is a service for 16-25 year olds within Birmingham and Solihull Mental Health foundation Trust. It provides clinical services for individuals with mental health difficulties that are referred by their GP.

The study conducts regular assessments including measures of psychotic symptoms and psychosocial functioning measures. Over twelve months the researchers are able to observe any progression or improvement in an individual's symptoms.

Case Selection

For this case study, Jamila (a pseudonym) was selected. Jamila had completed nine months of assessments with other researchers in the team and was due her final twelve month assessment within the timeframe for this report. This provided an opportunity for myself to conduct the final assessment and utilize the previous assessments to generate a year summary of Jamila's progress. This would give a holistic impression of the life of an individual experiencing psychosis.

Background

Jamila is a 19 year-old British female of Asian-Bangladeshi ethnicity, born in the UK. She is an only child and lives with her parents, who were born in Bangladesh. She has a long-term boyfriend and does not drink, smoke or use recreational drugs. She has recently completed her A-Levels and is revising for re-sits. Jamila first visited her GP in May, 2012, regarding self-harm and depression. She described a breakdown in June 2012 and was prescribed 40mg fluxotrine, which she had taken for six months when she initially took part in this study in November 2012.

Measures

Self report: Non-specific psychological distress was determined using the Kessler Psychological Distress Scale (K10; Kessler *et al.,* 2002). Depression was assessed using the Quick Inventory of Depressive Symptomology (QIDS; Beck *et al.*, 1967), and anxiety levels were calculated using three measures: the Social Phobia Scale (SPS) and Social interaction Anxiety Scale (SIAS; Mattick & Clarke, 1989), and the Overall Anxiety Severity and Impairment Scale (OASIS; Norman *et al.*, 2006).

Interview: The Comprehensive Assessment of At-Risk Mental States (CAARMS; Yung *et al.*, 2005) was administered, consisting of four subscales: unusual thought content (UTC), non-bizarre ideas, perceptual abnormalities and disorganised speech. It rates severity (1-6), and frequency (1-6) of the symptoms and overall distress (0-100) caused.

Secondly, current functioning was determined using the Global Functioning: Social Scale (GF: Social; Auther, Smit & Cornblatt, 2006) and the Global Functioning: Role Scale (GF: Role; Niendam, Bearden, Johnson & Cannon, 2006), which rate on a scale of 1-10, with 10 representing superior functioning.

Baseline

Jamila's Baseline assessment was conducted in November 2012 by a member of the research team. In the self-report questionnaires Jamila scored 37 on the K10, indicating likeliness to have a severe mental disorder, and 15 on the QIDS, indicating moderate depression. Finally, Jamila scored 42 on the SPS, indicating social anxiety, 27 on the SIAS, indicating a social phobia, and 9 on the OASIS, suggesting responses consistent with an anxiety diagnosis.

During the CAARMS interview, Jamila reported waking up feeling confused between her dreams and reality, and also feeling like she was floating. These experiences occur daily, for extended periods. This experience is consistent with the UTC subscale. Jamila also reported general feelings of being watched, occurring less than once a month. This increased self-consciousness is considered a non-bizarre idea. Finally, at baseline Jamila reported a perceptual abnormality: somatic change. Jamila feels "creepy crawlies" on her skin, which occur briefly every day in different bodily locations. When she reacts, they vanish. For the severity, frequency and distress ratings of these experiences, see Table 1.

Table 1 *Severity, frequency and distress levels for the four CAARMS subscales*

	Severity	Frequency	Distress
Unusual thought Content	4	5	80
Non-bizarre Ideas	2	1	20
Perceptual Abnormalities	4	4	80
Disorganised Speech	0	0	0

The GF: Role interview revealed Jamila is currently studying for exam re-sits due to not achieving her desired A-Level grades. She struggles considerably to motivate herself to revise. Jamila's current role functioning is 6, demonstrating "moderate impairment."

The GF: Social interview determined that Jamila sees her friends once a week because her parents "force her to study." She reported taking her current difficulties out on her friends and boyfriend. Due to this, her current social functioning is 7, representing "mild problems in social/interpersonal functioning."

Three months

Jamila's three-month follow up took place in February 2013 during which the same assessments were administered. Jamila reported no lifestyle changes since baseline and her mental health was "about the same." Her K10 score increased, remaining indicative of a severe mental health disorder, whilst her QIDS score remained in the range for moderate depression. Jamila's SPS and SIAS scores increased however remained in the ranges indicating high social phobia and social anxiety. A reliable change index calculation of 7.72 shows Jamila's social anxiety increase was highly significant in the past three months. Her OASIS score marginally decreased, but did not affect the range category.

During the CAARMS interview, Jamila reported feeling "vaguely disorientated" on a daily basis, for between thirty minutes to one hour. This experience is consistent with UTC phenomena, however is less intense than previously reported UTC at baseline.

Jamila described a non-specific feeling of being watched. She was able to question the feeling but cannot "shake it." It occurs several times every day. Jamila's ability to question her experience demonstrates a non-bizarre idea with no delusional conviction. Her severity score of 5 is an increase from baseline and places Jamila in the ultra-high-risk category for psychosis. The reliable change index is an effective method for measuring change in a single individual (Jacobson & Truax, 1991). According to this theory, an index score greater than 1.96 indicates a significant change in scores. A reliable change index was calculated for Jamila's scores for non-bizarre ideas at baseline and three months, and emerged as 2.28. This demonstrates that the increase in Jamila's non-bizarre ideas is significant.

Jamila also reported hearing music and people speaking however cannot make out what the voices say. They are clear for a period and then fade slowly, which reminds

her they are not real. This occurs for a few minutes every day. These experiences rated 4 on the perceptual abnormalities subscale. For this subscale, a score of 5, rather than 6, indicates psychotic, therefore Jamila is considered ultra-high-risk for psychosis on a second subscale. For CAARMS ratings see Table 2.

Table 2 *Severity, frequency and distress ratings for CAARMS subscales at three months*

	Severity	Frequency	Distress
UnusualThought Content	2	4	10
Non-bizarre Ideas*	5	5	85
Perceptual Abnormalities*	4	4	30
Disorganised Speech	0	0	0

* Ultra-high-risk scores

Jamila reported no change in her social life or role functioning, therefore her GF: Social and GF: Role scores showed no change.

Six Months

Jamila's six-month follow-up took place in May 2013. Since her last assessment Jamila reported she had re-sat her A-Levels and was awaiting the results. She had applied to university and had also secured a job two days a week ███████████████ ██████.

Jamila's K10 score returned to be consistent with that at baseline. She scored 10 on the QIDS; a decrease that now categorises Jamila with "mild" rather than "moderate" depression. Jamila's SPS score decreased to below baseline, however still reflects "social anxiety." Her SIAS score also decreased in comparison to at three-months, however

remained marginally higher than baseline. Finally, her OASIS score increased, returning to baseline.

During the six-month CAARMS interview Jamila reported feeling lighter, as though in a dream. This occurs a few times a week, varying from half an hour to all day. This is an UTC experience outside the self, which is not held with delusional conviction.

Jamila also reported episodes of paranoia consistent with the non-bizarre ideas subscale. She outlined that this had increased in the last three months. She is constantly conscious of people and fears they will hurt her. Jamila is now wary of where she sits due to wanting to know what is behind her. Although she reports a behaviour change, it is minor rather than marked, and thoughts are not entirely held with delusional conviction. She continues to be considered ultra-high-risk on this subscale.

In relation to the third subscale, perceptual abnormalities, Jamila reported hearing classical music both inside and outside the house. She also hears a "demonic growl" outside, "as though something supernatural is patrolling the streets." She says it "cannot be anything else." This happens a few times a week for up to an hour. Jamila's experiences are true hallucinations as she can identify the classical music. She holds the belief with some delusional conviction, however she only believes the music is real at the time. Jamila scored a 5 for intensity, which means she has crossed the psychosis threshold and is now considered psychotic as opposed to ultra-high-risk.

Finally, Jamila reported unintentionally typing backwards, missing words and rearranging sentences. This happens more than four times a week for a few minutes. There is no clear evidence of tangential ideas whilst speaking. For CAARMS assessment ratings see Table 3.

Table 3 *Severity, frequency and distress ratings for CAARMS subscales at six months*

	Severity	Intensity	Distress
Unusual Thought Content	4	4	50
Non-bizarre Ideas*	5	6	90
Perceptual Abnormalities**	5	4	70
Disorganised Speech	3	3	40

* = Ultra-high-risk scores   ** = Psychotic scores

During the GF: Social and GF: Role interview, Jamila reported no longer taking her problems out on her friends and that her boyfriend is now very supportive. Her social score therefore increased from 7 at three months, to an 8, demonstrating "good social function." She has secured a job at a ▮▮▮▮▮▮▮▮▮ two days a week. Based on this Jamila's role function score increased from 6, to 7, reflecting only "mild impairment" in role function.

12 months

Jamila's twelve-month follow-up took place in December 2013. Since her last assessment Jamila had started university and was living in halls with four girls. She reported that her mental health seemed "better, with some ups and downs."

Jamila's K10 score marginally decreased, however this did not affect the range category. The reliable change index calculated for the K10 from baseline to twelve months was 1.86. This is lower than the significant index of 1.96, thus, over twelve months, Jamila showed no significant change in psychological distress (Figure 1).
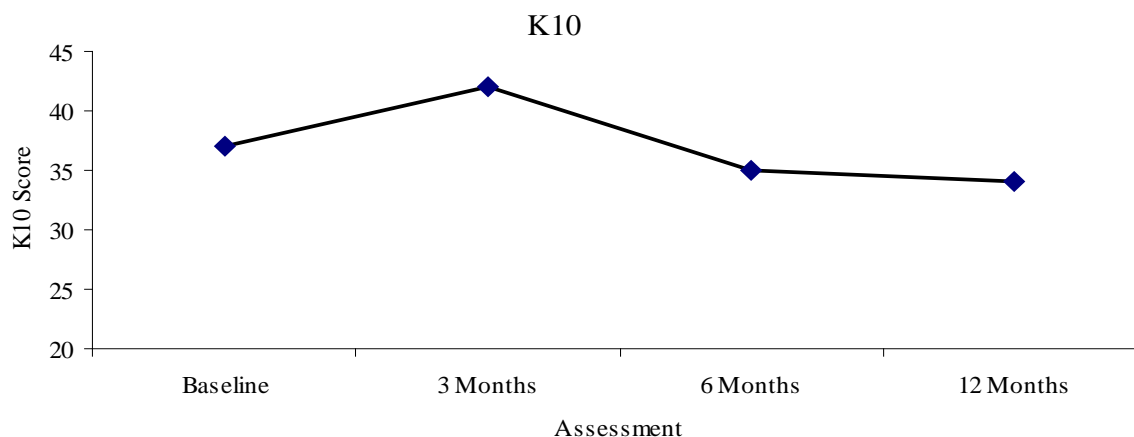
Figure 1: K10 scores from all four assessments.

Jamila's QIDS score remained stable in the "mild depression" range (Figure 2). The reliable change index from baseline to twelve months for Jamila's depression, measured by the QIDS, was 3.0, reflecting a significant improvement over the year.
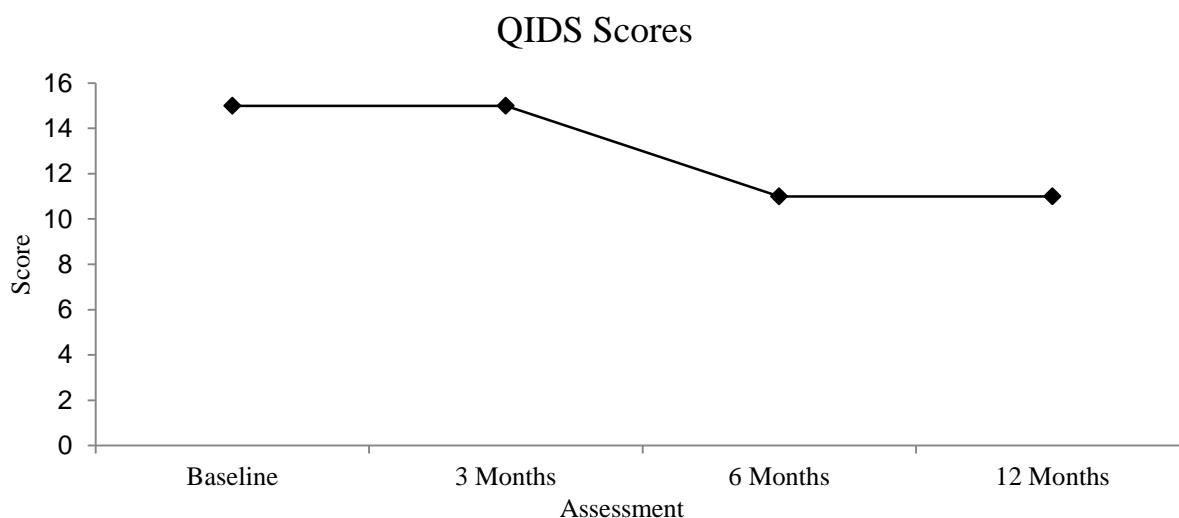
Figure 2: QIDS scores for all four assessments.

Jamila's SPS score increased in comparison to that at six-months, however remained within the same "social phobia" range as previous assessments. Her SIAS score remained fairly consistent, whilst her OASIS score continued to marginally increase within the "anxiety diagnosis" range (Figure 3), however a reliable change index score of

0.78 illustrates that over the past twelve months Jamila's OASIS score did not change significantly. These results all indicate that anxiety remains prominent for Jamila.

Anxiety Measures
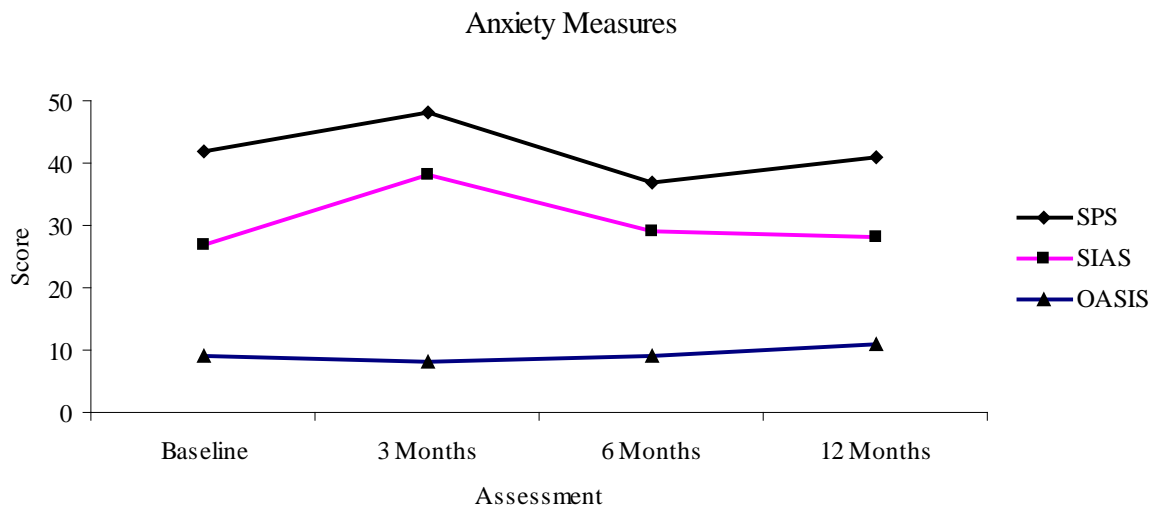
Figure 3: SPS, SIAS and OASIS scores across all four assessments.

During the CAARMS interview, Jamila reported feeling "here," but has "a feeling something is off. Not reality, but not a dream;" A "mind fog" during which she feels less responsive. It happens 2-3 times a week for the entire day. Her scores reflect a decrease in UTC (Figure 4). At baseline, Jamila scored a 4 for severity of UTC. A reliable change index of 2.15 demonstrates that Jamila's UTC severity score has decreased significantly.

Unusual Thought Content
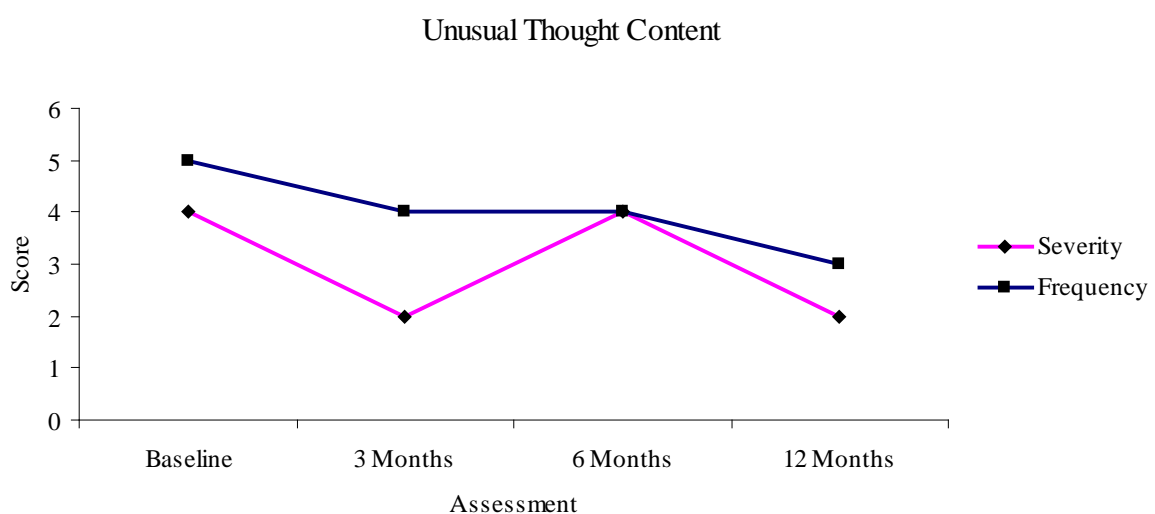
Figure 4: Severity and frequency of unusual thought content across all four assessments.

Jamila again described paranoia; believing people were following her and wanted to hurt her. This happens every day and in multiple situations, however happens more at home than university. She tries to "shake it" but cannot. At present she is at university so these experiences are less intense (Figure 5). Whilst Jamila's severity score change from baseline to three months was highlighted as significant, her overall reliable change index comparing baseline to twelve months, is 1.61, reflecting no significant change.
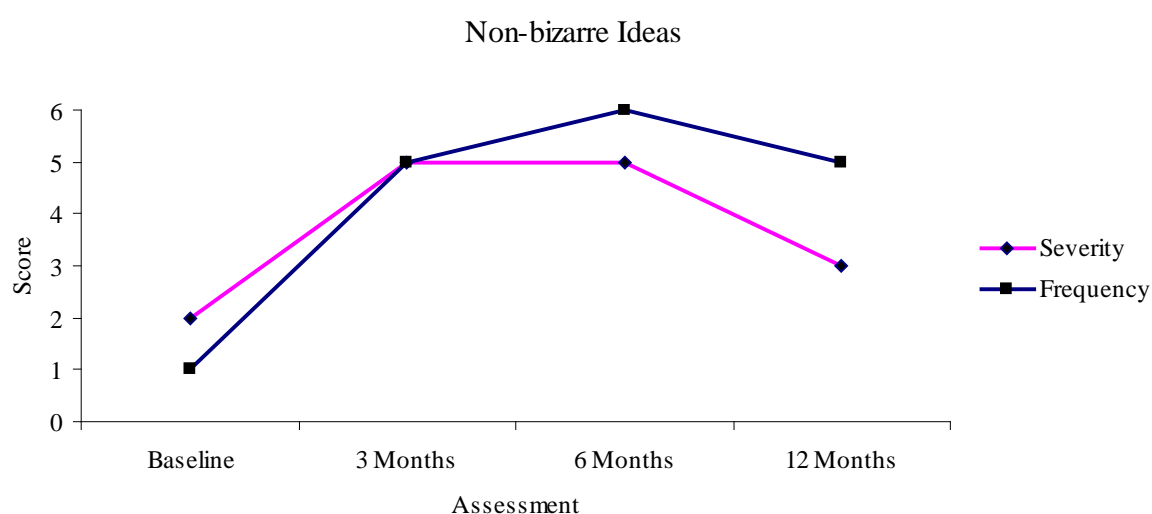
Non-bizarre Ideas

Figure 5: Frequency and severity of non-bizarre ideas across all four assessments.

The third CAARMS subscale again highlighted auditory phenomena. Jamila reported hearing classical music and mumbled voices. Both experiences were as though they were occurring in reality. This occurs every few days for under and hour. Hearing classical music is a true hallucination rather than a clear auditory experience. She continues to rate as "psychotic," thus has sustained this for six months (Figure 6).

Perceptual Abnormalities
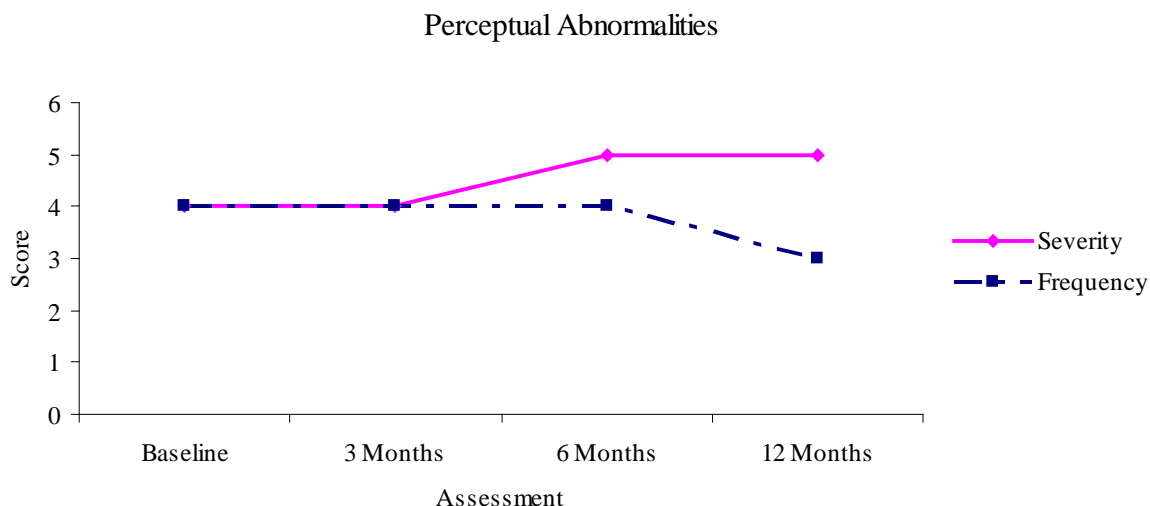
Figure 6: Severity and frequency of perceptual abnormalities across all four assessments.

During the GF: Social and GF: Role interviews, Jamila explained she had moved to university and lives with four flatmates in halls. She has friends on her course, is achieving 2.1's in her studies and continues to work ▓▓▓▓▓▓▓▓▓▓▓ during the holidays. Jamila befits a social functioning score of 9, indicating "above average social/interpersonal functioning" with minimal interpersonal problems. Jamila's current role functioning score is 9, indicating "above average role functioning." It is clear she has no difficulties maintaining grades at university and submitting assignments on time.

Social and Role Function
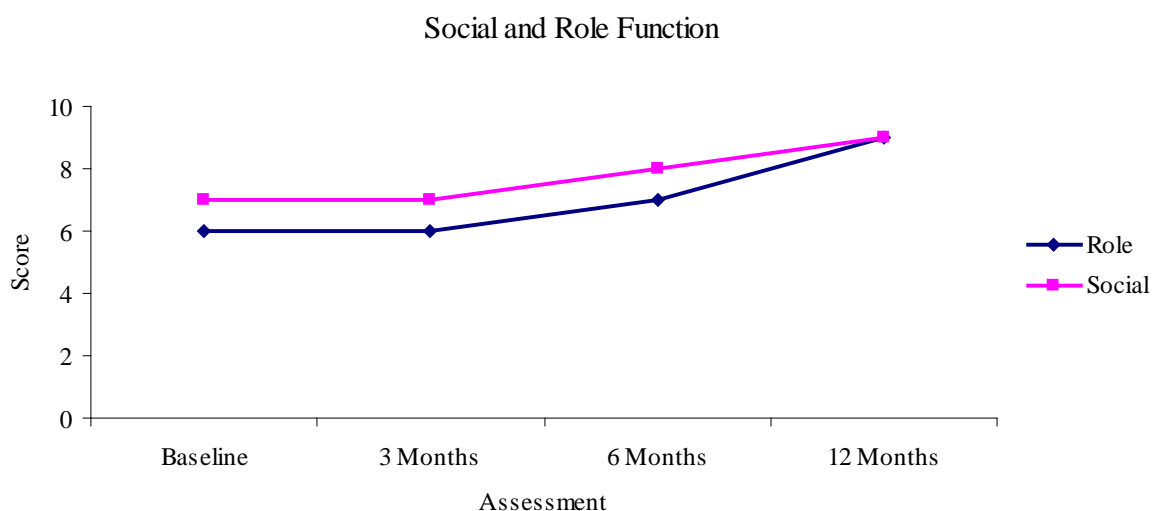
Figure 7: GF: Social and Role functioning scores from all four assessments.

Discussion

This case study aptly demonstrates McGorry *et al.*'s (2006) four stages. Jamila was originally referred to YouthSpace regarding depression and anxiety. These are non-specific stage 1a symptoms. Subsequently at Jamila's three-month assessment, her non-specific symptoms had progressed towards psychosis. On the non-bizarre ideas subscale of the CAARMS, Jamila scored 5, identifying her as being in stage 1b: ultra-high-risk for psychosis. This was also apparent on the perceptual abnormalities subscale. Therefore, in the space of three months, Jamila's symptoms progressed from stage 1a, to 1b. At her six-month assessment, Jamila's score for perceptual abnormalities increased to 5 for intensity and 4 for frequency, indicating a transition to psychosis. During this time, Jamila remained in the ultra-high-risk category for non-bizarre ideas. Six months later, at her twelve-month follow up, Jamila had maintained this transition in terms of perceptual abnormalities. There is potential for Jamila's psychotic symptoms to be due to her high anxiety, which remained consistently high throughout the duration of this study. In this instance, however, as Jamila's psychotic symptoms increased in intensity, her anxiety did not show a significant increase.

Interestingly, whilst Yung *et al.* (2010) outlined typical decline in psychosocial function during first-episode onset, Jamila's social and role functioning significantly increased. At her six-month assessment, where her symptoms were identified as psychotic, Jamila's role score increased from 6, to 7, and her social score increased from 7, to 8. These scores further increased at her twelve-month assessment, categorising Jamila with above average social and role functioning, whilst experiencing psychosis. Thus, Jamila was able to manage her psychotic symptoms and improve her functioning level, despite never receiving an intervention over the twelve month assessment period.

This successful management of psychotic symptoms presents a limitation to McGorry *et al.'s* (2006) argument. If the notions of earlier intervention and stages were applied to Jamila's experiences, it is possible to argue that had Jamila received intervention during stage 1a, it may have reduced the risk of the non-specific symptoms developing further. If the CAARMS interview had taken place as a standard procedure during stage 1a, Jamila may have been highlighted as at risk and carefully monitored. This argument could be strengthened by Jamila's progression in symptoms at her three-month assessment in which she was considered ultra-high-risk on two separate CAARMS subscales. Intervention here, as outlined by McGorry *et al.* (2006), would involve cognitive-behavioural therapy and psychoeducation, which may have prevented transition to psychosis. Yung *et al.* (2010) further argue that intervention here would reduce the need for antipsychotic drugs, labelling an individual "psychotic," or the psychosicial decline co-occurring with first-episode psychosis (Yung *et al.*, 2010).

Jamila's increase in psychosocial functioning at this time, however, suggests that antipsychotic drugs may not always be required in order to function normally. Whilst early intervention may have prevented Jamila's symptoms from developing, it is not without limitations and stigmas. As Jamila has been able to function "above average" despite her symptoms being considered psychotic, this questions whether earlier intervention, in this instance, may have caused greater negative impacts than the symptoms themselves. Yang, Wonpat-Borja, Opler and Corcoran (2010) highlight the potential stigma associated with "psychosis risk syndromes" as it can cause negative coping strategies and stereotypes. Corrigan, Watson and Barr (2006) further argue that the label "psychosis" creates greater stigma than the symptoms themselves due to directly impacting self-esteem and self-efficacy. Fusar-Poli *et al.* (2012) demonstrate that between 22% and 39% of ultra-high-risk individuals transition to psychosis, whilst

the remaining 61% do not. This research suggests that earlier intervention would be beneficial for two tenths of ultra-high-risk individuals, however the stigma for the remaining 61% of individuals that would be identified as having "psychosis risk-syndrome" may be more detrimental than their symptoms.

Whilst this case study highlights that early intervention may not always be beneficial, there is a key limitation in identifying psychosis. The CAARMS is considered a comprehensive assessment of at-risk mental states, however is highly subjective. In order for an individual to reach psychosis threshold criteria they must have a severity scale score of 6 (5 for perceptual abnormalities) and a frequency scale score of 4 or higher. A rating of 4 for severity depicts "3 to 6 times a week for more than an hour per occasion" whilst a rating of 3 depicts "3 to 6 times a week for less than one hour per occasion." Some individuals may describe symptoms lasting "around about, maybe just under an hour." In this instance, a subjective rating could identify an individual experiencing psychosis, who will then receive treatment, or an individual at risk for psychosis.

Nelson *et al.* (2008) found that workshops for CAARMS training may improve people's confidence for rating symptoms, however they do not significantly increase the accuracy of ratings. Despite this however, Yung *et al.* (2005) have demonstrated good inter-rater reliability using the CAARMS.

Overall this case study highlights that individuals are able to function well, despite psychotic symptoms. It suggests that the current push for earlier intervention may not be required, and could in fact generate greater stigmatization than the symptoms themselves. It stresses the importance of considering each individual and their functioning level, rather than using a subjective measure to determine whether an individual reaches psychosis threshold. Whilst measures may be beneficial to form a

complete picture of the symptoms an individual experiences, it should not be depended upon to decipher which individuals receive treatment. Other factors, such as social and role function, and an individual's distress due to the symptoms, should be incorporated into determining whether an individual reaches the psychosis threshold.

Placement reflection

My autumn placement was initially to explore the overlap between Autism and psychosis, which was the basis for creating my placement goals. My focus later shifted to "Transitions;" longitudinally tracking individuals with mental health complaints to determine those that transition to psychosis. Thus, some of the initial placement goals were altered.

After completing an undergraduate module on psychosis, I felt I had good foundation knowledge to progress with. The overlap between Autism and psychosis however, was novel. The intention was for me to conduct assessment interviews with individuals with psychosis, such as paranoid schizophrenia, to determine any autistic overlaps. I received comprehensive training on the Positive and Negative Syndromes Scale (PANSS) (Kay, Fiszbein & Opler, 1987) to help me administer this assessment and mark it. I was briefly involved in the recruitment process for this study, which allowed me to socially interact with individuals with varying degrees of mental health difficulties. This interaction helped me to appreciate participants as individuals, rather than research subjects.

Simultaneously to this, I received training on various measures involved in the Transitions study such as the SOFAS (Morosini *et al*., 2000) and the GF: Social and GF: Role interviews. The most valuable training, however, was on the CAARMS, conducted by Professor Yung, whom was involved in its creation.

After completing the training I observed a selection of individuals conducting assessments and was able to witness multiple interview styles, selecting aspects of each to incorporate into my own. I believe the result of this is a confident, compassionate interview style. I conducted five assessments and with each I grew in confidence. This interview style and confidence will be applicable to any clinical interview setting and therefore, will be useful in subsequent roles.

Writing up a case report has helped me to understand the data analysis process and therefore discover what information is important in order to have a comprehensive data set. For example, asking people to expand on words such as "weird" or "floating" in the CAARMS demonstrated my personal interpretation could be different to what the person is experiencing. I have learnt to collect as much detail as possible, simply by being interested in a person's experiences.

An implication from this placement is the importance of confidentiality. This is something I will take with me in all of my future placements or jobs. Keeping consent, hard data and databases all entirely separate is often neglected and this placement has reinforced its importance.

One of my placement goals was to observe and assist in the brain scanning process. This goal was achieved with me assisting in the preparation of two participants in the scanning room and observing the scan, after obtaining general user status. As I have a particular interest in scanning, this was a particular highlight of my placement.

A key thing I would have done differently would be better early time management. As people weren't sure what I was supposed to be doing I was given various tasks and training across all studies taking place in the department. If I had focussed on one study, I may have gained more in depth experience than I did across

two studies. An initial structure outlining some key tasks, rather than larger goals, may have been advantageous with my supervisor, which I will ensure to do next time.

I believe I met the goals I set out to achieve and the resultant report was more interesting and I gained greater knowledge from writing it than I would have with the initial plan. Overall I feel my placement was highly beneficial in providing me with key skills for my pursuit of a career in Clinical Psychology, as well as in future research.

Chapter 2: The usefulness of the diagnosis "Acute and Transient Psychotic Disorder" in a Mother and Baby unit

Introduction
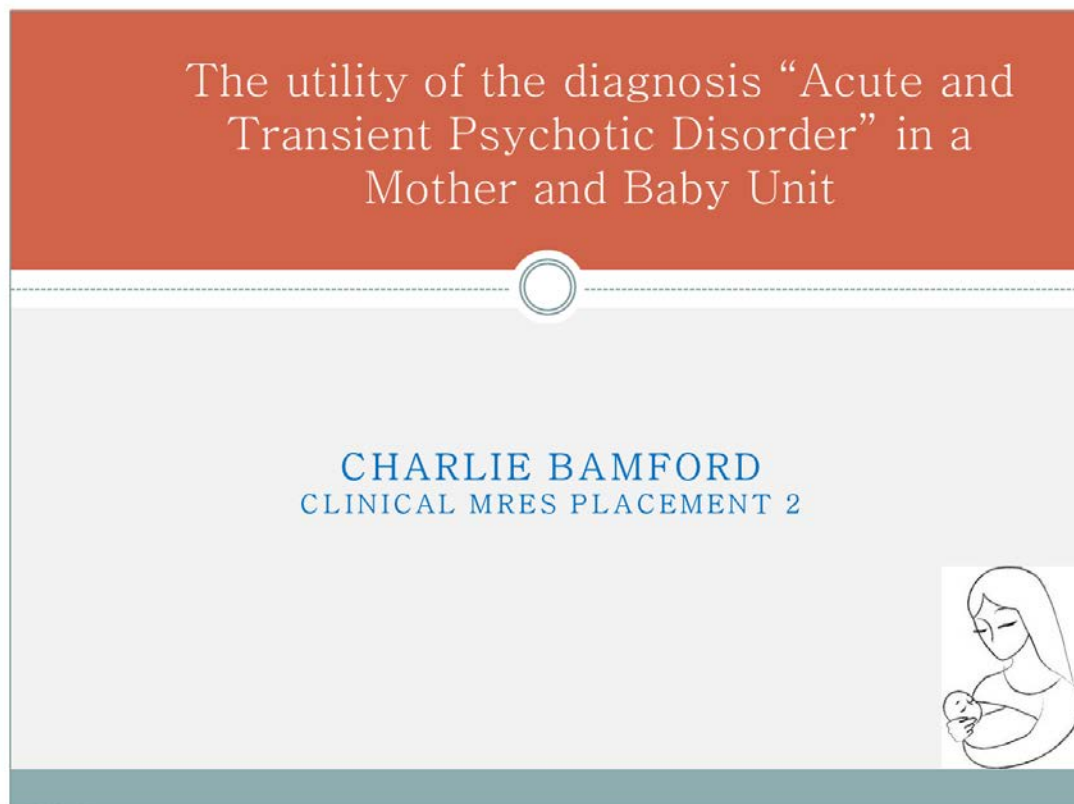
For my second placement I researched the effectiveness of the diagnosis "Acute and

Transient Psychotic Disorder" in relation to psychotic experiences following childbirth.

Today, I intend to provide a brief overview of both the Birmingham Mother and Baby

unit, and Acute and Transient Psychotic Disorders. I will then outline the methods

involved in this research and discuss the subsequent results. Finally, I will highlight

problems encountered and how these may be addressed. I will conclude with a personal

reflection.

The Barberry Mother and Baby unit caters for outpatients, inpatients and community patients. Women are often referred by a midwife who detects a personal or family history of mental illness. The team helps to devise a care plan should these ladies experience any postpartum difficulties. The inpatient unit caters for psychiatric disorders associated with or exacerbated by pregnancy or childbirth; and bonding difficulties.

What is ATPD?

- Introduced to ICD 10 in 1992[1]
    - F23.9 (Acute and Transient Psychotic Disorder)
    - F53 (Postpartum Disorders)

- Referred to as "stress induced psychoses"

- Acute onset (<2 weeks) of typical psychotic symptoms
  Hallucinations, delusions, flight of ideas, decreased need for sleep, disinhibition, irritability, disorganised speech, mania, depression

- Resolves within 2 months

Acute and Transient Psychotic Disorder (ATPD) is an umbrella term for a group of acute disorders. It is typically under the F23 heading in the ICD 10, however in a Mother and Baby setting it comes under F.53; associated with postpartum disorders (WHO, 1992). ATPD is characterized by an acute onset of psychotic symptoms; an individual will deteriorate to a state of psychosis within two weeks. These symptoms must resolve within two months, however can often resolve within forty-eight hours.

Brief example of ATPD

- ⋯ *A lady was brought to A & E by a community midwife after giving birth by C-section 2 weeks earlier. She appeared confused and one of her twins were underweight. The lady thought her partner and sister were trying to kill her by poisoning her food and ran into the road to get away from them. The police were called and she bit the police officer. She accused her partner of infecting her with HIV. She repeatedly tried to pull out the stitches from her C-section and thought her medication was prescribed to kill her. She reported a flat mood but no depression.*

This vignette outlines a typical presentation of ATPD.

The utility of the diagnosis "Acute and Transient Psychotic Disorder" in a Mother and Baby Unit

Birmingham MBU interested in demographics of ATPD within a perinatal setting

- ATPD looks similar to Postpartum Psychosis, however resolves more spontaneously

- Postpartum Psychosis
    - Sudden onset of psychotic symptoms following childbirth
    - Not an ICD-10 diagnosis BUT···
    - Utility and face validity within perinatal psychiatry
    - Signposts individuals at risk

- This study aimed to compare these two groups to determine any distinguishing factors

The rationale for this project emerged as psychiatrists at the Mother and Baby unit in Birmingham noticed women diagnosed with ATPD presented with the same symptoms as Postpartum Psychosis (PP), however were recovering either without medical intervention, or before medication could take effect.

PP is a broad term covering a range of rare but severe mental illnesses. It is not an ICD 10 diagnosis, however it has clinical utility within perinatal services.

The psychiatrists at the mother and baby unit were interested in the demographic features of women with ATPD, compared to PP, to hopefully identify ATPD earlier, and determine whether an alternative course of treatment may be more effective.

Literature Review of ATPD

- **Gender**
  Higher incidence in men: 5.08 per 100,000 (women:2.72) [2]
- **Stability**
  In 3 years, 73% women maintained diagnosis (14% men) [2]
- **Family History**
  Stable ATPD rarely involves family history of mental health problems [3]
- **Stressful Events**
  - Trend towards stressful events <6m prior to onset e.g. work or family [4,5]
  - Migrating individuals more vulnerable due to homesickness [6]
- **Age**
  Mean 31.3 years; SD 9.5 years [7]

Research ascertains that incidence rates of ATPD are higher in men: 5.08 per 100,000, compared to only 2.72 per 100,000 in women (Singh et al., 2004). In contrast, stability of ATPD over three years was higher in women, with 73% of women maintaining their ATPD diagnosis, compared to 14% of men (Singh et al., 2004).

Further findings show that ATPD has a low association with family history (Das, Malhotra, Raasu & Malhotra, 2001), however a trend towards stressful events occurring within six months prior to deterioration in health (Rusaka & Rancens, 2014). Analysis of precipitating stressful events has not been conducted, however work or family commitments have been indicated (Pilman, 2012), as well as migration and homesickness (Lau, 2012).

Finally, the mean age of onset is 31.8 years, with a standard deviation of 9.5 years (Marneros & Pillman, 2002). This range is consistent with childbearing age.

Limitations

- Failed to mention incidence of ATPD in relation to childbirth

- Failed to mention whether childbirth was considered a stressful event

- Failed to consider ATPD in a perinatal setting

- Majority conducted in Indian sub-continent

Whilst the literature highlighted a range of demographic features it failed to mention ATPD in relation to childbirth. Thus, it is unclear whether childbirth is a stressor for ATPD, or whether childbirth may increase the risk of ATPD onset.

A further limitation of the literature is that is predominantly stems from the Indian Sub-continent, thus it is unclear whether the findings will be representative of a UK sample.

Method

Due to these limitations, a comparison was conducted between individuals diagnosed

with ATPD and PP. 11 women with ATPD (mean age 34.09 years) and 9 women with

typical PP (mean age 32.4 years) were selected sequentially from the Birmingham

Mother and Baby unit inpatient admissions database. Demographic and symptom

information was collated. This database was completed retrospectively, using the online

RiO notes.

Demographic information collected

Demographic Information	
Age	Home Country
Ethnicity	English Fluency
Relationship Status	Family in the UK
Relationship Difficulties	Asylum Seeking
Migration	Employment
When Migrated	Education Level
Reason for Migration	Financial Position
Duration in UK	SES
First Language	Rural/Urban

Symptom information collected

Symptom Information	
Inpatient Duration	Depressed mood
Outpatient Duration	Perplexity
Onset proximity to birth	Recovery within a few months
Acute onset	Stressors (family, financial, movement, death)
Hallucinations	Self harm/ suicide ideation
Delusions	Family History
Perceptual abnormalities	Personal History
Disruption of ordinary behaviour	Substance Abuse
Anxiety	Sleep disturbance

Information collected for each participant.

Research in the MBU: Hypothesis

- Previous literature suggests:
  Postpartum psychosis has a biological trigger associated with childbirth, whilst ATPD is triggered by psychosocial stressors, one of which may be birth

- Thus, we expect:
  Based on the above we would expect differences in family history, duration of illness, onset of illness from birth (ATPD less temporally associated with childbirth), and other stressful events such as migration

As individuals with PP typically have a family history of mental health complaints, a biological trigger associated with childbirth is expected. ATPD on the other hand appears to be associated with psychosocial stressors. On this basis, differences between the groups were hypothesised in terms of family history, illness duration (ATPD would be shorter), onset of illness from birth, (ATPD less temporally associated with childbirth), and finally, other stressful events such as migration.

Results

Demographic Results

Demographic	ATPD	PP	Chi Square
Ethnicity	Indian: 55%	British: 78%	.026*
Relationship status			.263
Relationship Difficulties			.217
Migration	Yes: 64%	Yes: 22%	.065
Duration in UK			.175
First Language			.126
English Fluency	Yes: 54%	Yes: 100%	.090
Family in UK			.719
Employment			.533

Chi^2 were performed comparing the ATPD group data to PP. In terms of demographics,

the Chi^2 revealed significant findings in terms of ethnicity; C^2 (1,20) = .026, *p< .05*.

Subsequently, there was a significant trend in terms of migration (C^2 (1,20) = .065, *p= <*

.1) and English fluency (C^2 (1,20) = .09, *p< .1*).

PP was most prevalent in individuals considering themselves "White British," whilst ATPD, was most prevalent in the Indian Sub-continent, such as Sri-Lanka, Pakistan and Bangladesh.

As the majority of ATPD literature has emerged from the Indian Sub-continent, higher prevalence of ATPD within this ethnic origin could imply an association with this particular ethnicity.

English fluency was greater in individuals diagnosed with PP (100%) than those diagnosed with ATPD (54%). This could be linked to higher migration in individuals diagnosed with ATPD, with 64% migrating to the UK. Both migration and lack of English fluency could increase the stress associated with giving birth and contribute to birth being a psychosocial stressor preceding ATPD.

Symptom Results

Symptom	ATPD	PP	Chi Square
Inpatient Duration			.713
Outpatient duration			.685
Duration of illness			.610
Proximity of onset	<1 month: 36%	< 1 month: 72%	.048*
Hallucinations			.508
Delusions			.925
Perplexity			.763
Stress			.293
Perception of Birth			.822
Family History	Yes: 9%	Yes: 55%	.077

Chi^2's of the symptoms recorded indicated no significant difference in general presentation, such as hallucinations or delusions, thus, confirming the two disorders present similarly. A significant difference emerged, however, regarding the duration for symptoms to emerge following birth (C^2 (1, 20) = .048, *p< .05*). There was also a significant trend in family history (C^2 (1,20) = .077, *p< .1*).

Symptom Results
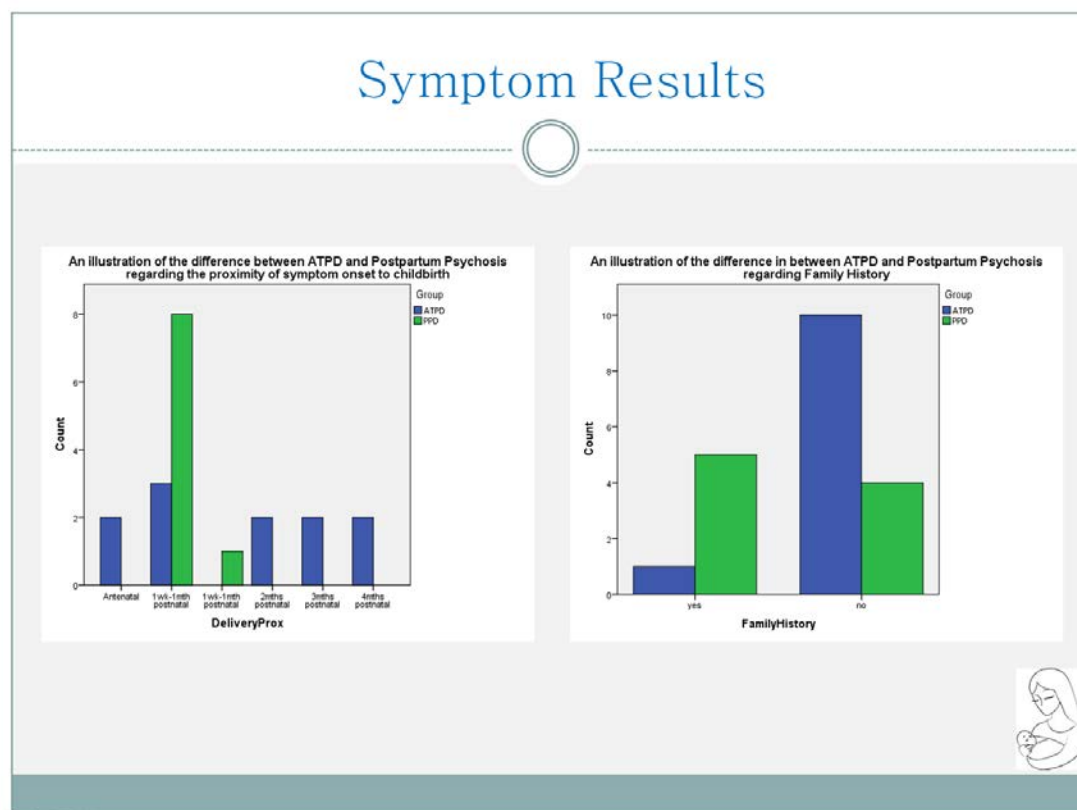
The "proximity of symptom onset" graph demonstrates that 72% of PP women displayed psychotic symptoms between one week and one month following childbirth. The onset for ATPD women, however, was more varied, with dispersion from antenatal through to four months postpartum. This finding could support a biological basis for PP as it is immediately after birth when the most significant hormonal changes occur (Mulder *et al.,* 2002).

There were higher familial mental health concerns for PP (56%), than for ATPD (9%). This again supports a biological trigger in PP onset, and alternative triggers for ATPD. No significant differences emerged regarding stressful events such as financial or family worries. This could imply childbirth itself is the stressful preceding event triggering ATPD, however this can only be postulate.

Conclusion

Due to the small sample size, the results of this study have low statistical power, so there is a risk of true effects being exaggerated. Therefore, there is limited application beyond this study without further research.

The results, however, imply no significant difference in symptom presentation between ATPD and PP. There are however differences regarding proximity of symptom onset, and family history. These differences support the notion of a biological trigger for PP, which is not present in ATPD. Whilst no significant stressors emerged between the two groups, it is possible that childbirth becomes a stressful event, possibly due to increased migration. Migrating to England may decrease social or family support available

following childbirth Furthermore, being unable to confidently speak the same language as doctors could increase the stress of childbirth.

Regarding the significant difference in ethnicity, further research is required to address whether heightened levels of ATPD in ladies from the Indian Sub-continent is due to ethnicity, which would support King *et al.,* (1994), suggesting ethnic minorities face personal and social pressures that contribute to increased psychosis, or due to subsequent factors such as migration and English fluency, which would support findings by Cantor-Graae & Selten (2005) that migration, or family history of migration is a risk factor in developing psychotic disorders.

Limitations

Limitations arose throughout this project, particularly regarding data availability.

Firstly, some participants were "open cases," thereby still receiving outpatient care; thus, it was difficult to conclude a point of complete recovery. In future, only closed cases should be included.

 Due to gathering data retrospectively, it was difficult to determine every demographic or symptom required. Online RiO notes did not always report, for example, socio-economic status, thus this could not be incorporated in demographic comparisons. It would be more beneficial to complete the information with the individual present. English fluency created a further limitation, as translators were required where English was not the first language. Translators present complications due to interpreting symptoms or phrases before relaying them, thereby information becomes altered.

Alternatively, a lady may have such a brief episode that before a translator can be arranged, she has recovered.

A clear issue with this research is the small sample size. Due to the rarity of the diagnosis this was unavoidable. If wider research was undertaken, incorporating more trusts, the sample size would be dramatically increased and would become more diverse; thus more representative of the UK.

Personal Reflection

My placement allowed me to observe the NHS process from referral to discharge. This

involved working alongside a multi-diciplinary team, learning the roles each individual

plays in treatment. Liasing with multiple members of a team is a valuable skill that I will

carry throughout future placements I worked with nurses in the inpatient facility and

with patients on the ward, which significantly impacted my research. I saw the

symptoms of postpartum psychosis first hand, allowing me to understand the distress

and functional impact of these disorders.

I was in charge of conducting the project, enforcing important time management skills,

but also relaying information to a supervisor, and seeking help when required. This is

the first project I have designed myself, therefore I gained insight into project

development; how an idea becomes research. In conjunction, I saw the advantages and

limitations of retrospective data collection. Whilst data can be easily obtained without the stress of recruitment, it relies heavily on notes containing required information.

A substantial gain from this placement is an in depth understanding and practical insight into two incredibly rare psychoses, which would be difficult to achieve elsewhere.

Whilst my undergraduate degree provided me with a basic understanding of psychosis, this placement expanded my knowledge further. I believe that in future clinical applications, this rare focus on psychosis will be advantageous.

Finally, my research will be presented at the international Marce conference. I consider it a personal achievement to have my name on an academic poster, and look forward to attending the conference.

Chapter 3: **Exploring a measure of maternal orientation in first time mothers**

Abstract

Background:

Childbirth is widely perceived as a joyous event which should be celebrated, however for approximately 10% of women, postnatal depression can make this a difficult period (Cox *et al*., 1993). Postnatal depression can impact parenting style, interactions between mother and child, attachment, and cognitive functioning. Due to the significant impacts of postnatal depression it would be advantageous to identify women at risk, during the early stages of pregnancy. Raphael-Leff (1985) proposed maternal orientation as a vulnerability factor for postnatal depression, and on this basis, multiple measures have been created to identify women of a strong maternal orientation. One said measure, is the AMOM-R.

Aim:

To assess the internal validity of the AMOM-R, a measure of maternal orientation, using a UK sample.

Method:

50 first time mothers in their third trimester were recruited through a large Birmingham trust. Participants completed demographic information, the AMOM-R, the Edinburgh depression scale and the Multidimentional Perfectionism Scale.

Results and Conclusion:

The facilitator subscale of the AMOM-R had good internal validity (*a*=.65) however could be improved through deletiing three questions *(a*=.80). An insufficient number of participants were identified as having a strong regulator orientation in order to assess the validity of this subscale, however there is some suggestion, based on frequency of responses, that negatively worded regulator questions may be difficult for women to openly endorse, thus rewording these should be considered.

Finally, high regulator scores were associated with increased antenatal depression, whilst high facilitator scores were associated with decreased perfectionism. The results of this study support the theoretical construct of maternal orientation, however also identify some assumptions that require modification.

Introduction

Postnatal depression (PND) is diagnosed in approximately 10% of childbearing women (Cox *et al.,* 1993), with a typical episode lasting between two to six months (Williamson & McCutchen, 2004). PND has the same characteristics as major depression, thus a diagnosis of PND requires meeting major depression criteria, as well as criteria for postpartum onset. The postpartum onset criterion specifies an episode within four weeks following childbirth (DSM-IV, 2000). Interestingly, despite diagnostic criteria specifying this four-week period, research indicates that 75% of PND cases occur within seven months of giving birth (Cooper, Campbell, Day *et al.,* 1988).

PND symptoms include anxiety, eating or sleeping disturbances, emotional instability, confusion, guilt or shame, and suicidal thoughts (Beck & Indman, 2005). Women experiencing PND often report negative feelings towards their baby and question their maternal competency (Astbury, 1994). It is widely perceived that becoming a mother should be celebrated, therefore women experiencing PND may be reluctant to disclose negative experiences through fear of stigmatization or being labeled a poor mother (Hall, 2006). Despite this assumption, negative thoughts, to an extent, are normal following childbirth (Hall & Wittkowski, 2006).

Impact of postnatal depression

A meta-analysis revealed that multiple factors have been associated with increased risk of PND, such as poverty, life stressors, antenatal stress, child

temperament, social support and marital difficulties (Beck 2001). Similarly, biological

triggers for PND have been identified, such as previous history of depression (Lee &

Chung, 2007). Antenatal depression, however, is currently the most reliable predictor of

PND (Lee & Chung 2007; Beck, 2001) with approximately 50% of women experiencing

antenatal depression developing PND (Marcus, Flynn, Blow & Barry, 2003). O'Hara &

Swain (1996) identified antenatal depression, poor marital relationship, low social

support and stressful life events as predictors of PND.

PND not only affects parenting style and infant attachment, it has also been

linked to poorer cognitive and emotional development. Murray (1992) illustrated that

infants of mothers experiencing PND were more likely to fail Piaget's object permanence

task, which measures mental representation at 18 months, than infants of mothers that

are well. There were also increased behavioural problems at 18 months; predominantly

temper tantrums, separation issues, sleeping and eating difficulties (Murray, 1992).

The role of maternal orientation

Research indicates that maternal orientation during pregnancy could be a

reliable indicator for women vulnerable to, or at risk of, both antenatal and postnatal

depression (Sharp & Bramwell, 2004). Maternal orientation, developed by Raphael-Leff

(1983), refers to a woman's antenatal expectations about childbirth, becoming a mother,

and her child (Sharp & Bramwell, 2004). Raphael-Leff (1983) identified two "poles" of

maternal orientation: facilitator orientation and regulator orientation.

A facilitator is a woman who views pregnancy as self actualization; reaching her

full potential as a woman and enhancing her feminine identity (Raphael-Leff, 1986). The

facilitator sets aside her adult life and focuses exclusively on her baby. She has a unique

understanding of the baby's needs and sees the baby as dependent on her (Van Bussel,

Spitz & Demyttenaere, 2009). The facilitator desires a natural birth and believes the baby knows it's needs best (Roncolato & McMahon, 2012). A facilitator seeks the intimacy of breast feeding, reducing the possibility for others to care for her baby. Her feeding routine is based on the child's desires (Raphael-Leff, 1986).

A regulator, on the other hand, views pregnancy as a threat to her adult identity. She views the process of pregnancy as a means to an end and is irritated by increased tiredness or being distracted by the baby's movements. She may work as long as possible and ignore the emotional bond of being pregnant. A regulator is likely to be apprehensive about the birth process, and desires to make active use of medications to achieve a "civilized" birth (Raphael-Leff, 1993). A regulator desires to quickly return working life. She will most likely assume that the baby cannot distinguish between caregivers, allowing her to share caring for the baby. Further to this, a regulator may lean towards bottle feeding and getting their child used to a routine (Raphael-Leff, 1986). Unlike the facilitator, who sees the baby's dependence as a positive, the regulator views the baby as demanding (Sharp & Bramwell, 2004). Interestingly, research indicates that regulator orientations are more common in unplanned pregnancies (Ronocolato & McMahon, 2012).

Initially, maternal orientation proposed that all mothers could be placed along a continuum between facilitator and regulator orientations, identifying predominantly with one orientation or the other. Later, however, Raphael-Leff (1993) identified an intermediary group, reciprocators, with both facilitator and regulator traits. A reciprocator may perceive neither herself nor her baby to know best and thus is flexible in her approach to motherhood. She recognizes the benefits of both feeding on demand and establishing a routine. She is also aware of her own needs as both a mother and an adult (Sharp & Bramwell, 2004; Raphael-Leff, 1985b).

Raphael-Leff (1993) proposes that having a strong facilitator or regulator maternal orientation could present a risk for developing PND. She outlines these as "interpersonal, physical, economic or sociocultural factors conspiring to prevent mothers from fulfilling their own specific expectations of motherhood." Becoming a parent involves new experiences, and different maternal orientations are vulnerable following different experiences (Van Bussel, Spitz & Demyttenaere, 2009).

For a facilitator, changes will be embraced, however idealized expectations about becoming a mother can leave her vulnerable to disappointment. Unexpected complications during pregnancy or childbirth can ruin the idyll the facilitator desires. Similarly, being unable to breastfeed can have the same result, because these are all natural maternal processes. These factors may mean a facilitator is most vulnerable to PND in the early postpartum (Raphael-Leff, 1985).

A facilitator may feel the need to suppress natural negative feelings towards the baby through fear of conflict with the ideal baby-self. This can result in high anxiety and guilt, as well as over-involvement with the child. The baby crying will be viewed as a sign of a poor mother (Raphael-Leff, 1985).

A further facilitator vulnerability factor would be returning to work earlier than anticipated. Due to this, a facilitator is also at risk of developing PND when she has to leave her child and acknowledge that it has its own independence, and that others are capable of taking care of her child, rather than it being dependent on her (Raphael-Leff, 2010).

A woman with a regulator orientation, on the other hand, is most vulnerable to developing PND either during pregnancy or in the early six to eight weeks postpartum (Sharp & Bramwell, 2010). This is because the baby threatens their identity. She may view the baby as a parasite, feeding on her resources, over which she has no control.

During the early postpartum, a regulator may feel trapped by the demands of her new baby, particularly if there are no other carers to share the "burden" (Raphael-Leff, 2010). A regulator will aspire to return to work as quickly as possible, thus unemployment and no respite from her baby can threaten her competence and lead to resentment of being a mother.

There are clear distinctions between facilitators and regulators not only in their expectations about becoming a mother, but also in subsequent mothering style (Ronocolato & McMahon, 2012). Using the strange situation task, Scher (2001) demonstrated that mothers with a facilitator maternal orientation have infants with more secure attachment than those with regulator orientation mothers. Stein *et al*. (1991) also found poorer quality of interaction between mothers who had recovered from PND and their infants.

Identifying maternal orientation

Due to the risks posed by PND to both child and mother, it would be advantageous to identify women at risk of developing PND as early as possible. Currently, the main identifier for at risk women is previous family history of PND. This does not, however identify women who become the first in their family to experience PND. There is strong evidence that particular maternal orientations leave women vulnerable to PND. Therefore assessing maternal orientation could help to identify women with no current family history that are at risk due to their personality traits. Moreover, it would be beneficial to develop interventions to specifically address orientation and potentially reduce vulnerability to PND.

Sharp & Bramwell (2010) developed the Antenatal Orientation Measure (AMOM) to identify women with facilitator or regulator orientations, based on Raphael-Leff's (1985) model of maternal orientation. The AMOM is an adaptation of Raphael-Leff's

(1985) Facilitator Regulator Questionnaire (FRQ). It assesses the pregnancy experience and women's expectations about becoming a mother. The AMOM, unlike the FRQ focuses solely on the third trimester. It comprises twenty-seven self-report items, focusing on labour, childbirth, the baby, becoming a mother, and how the baby will be fed. Thus, the AMOM covers the mothers expected feelings, as well as adjustments associated with becoming a mother (Ronocolato & McMahon, 2012). The AMOM has a seven-point bipolar response scale with a facilitator or regulator response at each end. Participants indicate how closely their feelings are to either response.

In Sharp & Bramwell's (2010) study, using the AMOM they were able to identify women that endorsed characteristics of strong facilitator and regulator orientations, through the traits outlined by Raphael-Leff (1985). They identified an association between a regulator orientation and both antenatal and postnatal depression. Women completed the EDS at six weeks postpartum, which revealed that 30% of regulators met the criteria for major depression. A logistic regression further reflected that regulator maternal orientation was a significant independent risk factor for symptoms of PND (Sharp & Bramwell, 2010). These findings support the notion that regulator orientation mothers are most vulnerable to PND in the early postpartum.

Subsequent to the AMOM, the AMOM-R was devised by Ronocolato & McMahon (2012) using an Australian sample. Whilst the AMOM focused on five key areas, the AMOM-R focuses on 3: initial expectations about the baby, the mother's expectation of herself in the first few weeks, and how she plans to feed her baby. These three subscales were identified as the most effective in determining facilitator and regulator orientations.

The AMOM response scale was further adapted in the AMOM-R to address the notion that mothers may have mixed responses to a question. In the original AMOM,

women are presented with a question, such as "how do you intend to feed your baby?" followed by a bipolar response scale. At one end would be an anchor reflecting a facilitator response, and at the other would be a regulator response anchor. Women are expected to respond either more towards the facilitator, breastfeeding anchor, or more towards the regulator bottle-feeding anchor. The AMOM-R recognizes that women may endorse characteristics of both orientations. For example, a reciprocator is aware of the advantages of both feeding on demand, and adapting to a routine. Thus, they may not endorse one characteristic more strongly than another. Therefore, the AMOM-R presents the previous question in two questions: "I intend to mostly breastfeed" which is a facilitator statement, and "I intend to mostly bottle feed" which is a regulator statement. Women can then indicate their response on a six point scale ranging from strongly disagree to strongly agree.

There are currently three known measures of maternal orientation: the AMOM, FRQ and the Placental Paradigm Questionnaire. The internal consistency for the FRQ was .21 and the Placental Paradigm Questionnaire (Raphael Leff, 2009) was .66 for the regulator subscale and .73 for the facilitator subscale. Ronocolato & McMcMahon (2012) present Cronbachs alpha coefficients of .71 for the regulator subscale (8 items) and .72 for the facilitator subscale (10 items). Thus, the AMOM-R has the best internal consistency compared to other maternal orientation measures.

Aims of the study

One of the aims of this study is to further validate the AMOM-R using a UK sample. Research using the AMOM-R is limited, and has only been completed by one Australian research group (Ronocolato & McMahon, 2012). The incidence of PND in Australia each year is approximately 14% (Deloitte, 2012), which is consistent with incidence rates of 10% in the UK (Cox et al., 1993). Australia currently utilizes both

private and government funded healthcare services, and offer scans at the same gestation intervals as the UK. Therefore we would expect no difference between the two samples based on healthcare advice or treatment.

Australia has a large migrant community with 73.3% of the population having both parents born overseas, compared to 19.4% having both parents born in Australia. The ethnic diversity in Melbourne, Australia, is predominantly Chinese (24.7%), with additional large English (13.5%), Australian (8.5%) and Indian (5.3%) populations (Australian Bureau of Statistics, 2011). In contrast to this, the ethnic diversity in Birmingham, UK, where this study will take place, is predominantly White British (53%), with large Pakistani (13.5%) and Indian (6%) populations (Office for National Statistics, 2011). Despite the two cities being ethnically diverse in different ways, the majority (95%) of the Australian sample was Caucasian, thus reducing likely discrepancy between the samples based on varying ethnicities. It would be advantageous to research the reliability of the AMOM-R scores across these two samples and subsequently seek to validate it using a more diverse population.

The current research study, which is part of a wider study, seeks to further validate the AMOM-R's ability to identify women with a strong facilitator or regulator orientation, using a UK sample of first time mothers in their third trimester. Due to the number of anticipated similarities between the two samples, similar internal validity is expected to that reported by Roncolato & McMahon (2012).

Aside from maternal orientation, personality traits, including perfectionism, have been identified as risk factors for developing PND (Gelabert et al., 2012). A perfectionist is an individual who works "unceasingly towards unobtainable goals and measure their self worth by productivity and accomplishment" (Parker & Adkins, 1995). Research reflects that women with higher perfectionism scores, particularly socially orientated

perfectionism (Macedo et al., 2009) have a higher incidence of PND (Gelabert et al., 2012). High concern with mistakes has also been associated with PND, with 34% of women with PND having high concern over mistakes compared to 11% of controls (Gelabert *et al.*, 2012; Maia *et al.,* 2012). As a facilitator takes a more baby-led stance on raising her child, she is unlikely to have a strong perfectionist personality. A regulator however, may feel the pressures of others and the need to be perfect.

Aside from assessing the internal consistency of the AMOM-R with this new sample, the construct validity will be assessed. As the AMOM-R is the only well-supported measure of maternal orientation, no direct comparison is available. Therefore to assess construct validity, this study will consider relationships between maternal orientation, and other known risk factors for PND: antenatal depression and perfectionism. It is expected that women of a strong regulator maternal orientation will have elevated levels of antenatal depression compared to women of facilitator or reciprocator maternal orientations. Moreover, it is expected that women with a strong regulator orientation will have elevated levels of perfectionism, particularly socially prescribed perfectionism.

Method

Participants

First time mothers in their third trimester of pregnancy (27-42 weeks), registered under a large hospital trust in the West Midlands were eligible to participate. This hospital sees over 8,000 pregnant women each year and covers a diverse ethnic population. Further inclusion criteria included having no known complications during pregnancy and able to read and understand English. Women were not eligible should

they, or their baby have significant health problems, if there was a high chance of the

participant not completing the pregnancy, or if the participant had a learning disability.

Of the 59 individuals approached to take part, 6 declined. Moreover, of the 53

that completed the study, 3 participants failed to complete more than 90% of items,

resulting in their data being excluded.

Participant age ranged from 19-42 years (M=30.1, SD=5.44), with mean

gestational age being 35.3 weeks (SD=5.5). Table 1 reflects that participants were

predominantly White British (61%), planned their pregnancy (70.4%) and had a partner

(87.2%).

Table 1 Sample demographics (*N*=50)

Demographic	Category	Frequency	Percentage
Marital status	Single	8	16
	Co-habiting	13	26
	Married	27	54
	Civil Partner	1	2
Education	None	2	4
	GCSE	7	14
	NVQ	8	16
	A Level	2	4
	Professional Qualification	14	28
	Undergraduate Degree	11	22
	Masters Degree	6	12
Employment	Unemployed	6	12
	Part Time Employment	6	12
	Full Time Student	2	4
	Full Time Employment	33	66
	Self Employed	3	6
Ethnicity	White British	33	61
	Asian	5	9.3
	Black	2	3.7
	Mixed Background	4	7.4
	White Other	6	11
Conception	Planned	38	70.4
Mental Health	No previous mental health history	42	77.8

Procedure

Ethical approval was obtained from the Edgbaston Research Ethics Committee for a wider study of which the current study was a small component. The results of this wider study are reported elsewhere. Recruitment took place over eight weeks. A longer recruitment period was intended, however was unavoidably limited by delays in receiving ethical approval.

Recruitment was multimodal, with women recruited via three routes. The majority of women (*n*=50) were recruited via community midwifery clinics in South Birmingham, run by three midwifery teams. A further small number of participants were recruited via local NHS Trust antenatal classes (*n*=3) and via an advertisement on the National Childbirth Trust social media (*n*=3). In midwifery clinics, the researcher either approached women directly, or the midwives briefly discussed the study with eligible women. Study information was provided and women were given 24 hours to decide whether to participate. For the remaining recruitment routes, appropriate times were arranged to meet with women. Demographic variables (Table 1) were assessed, as well as maternal orientation, antenatal depression and perfectionism.

Measures

The Antenatal Maternal Orientation Measure Revised (AMOM-R; Roncolato & McMahon, 2012) is a modified version of the AMOM (Sharp & Bramwell, 2004), comprising 18 self-report questions covering characteristics associated with facilitator and regulator maternal orientations. The AMOM-R presents women with a facilitator orientation question and a regulator orientation equivalent, rather than bipolar response scales. Thus, questions such as "I expect to feed my baby on demand" and "I expect to feed my baby at set times" were both included to accommodate individuals

who may endorse both expectations. Responses are provided on a 6-point Likert scale, ranging from strongly disagree to strongly agree.

The AMOM consisted of five subscales; labour, birth, what the baby will be like, what the mother will be like in the early weeks, and her feeding plans. The AMOM-R omits labour and birth, focusing on the remaining three categories that are considered to best identify maternal orientation (Sharp & Bramwell, 2004). These categories are divided into a facilitator subscale comprising 10 items, and a regulator subscale comprising 8 items (Appendix A). High scores on one subscale indicate a tendency towards that maternal orientation.

The Edinburgh Depression Scale (EDS; Cox et al., 1987) consists of 10 self-report questions targeting depressive symptoms, such as "I have blamed myself unnecessarily when things went wrong." Responses are rated on a 4-point scale, scoring zero for low or no depression responses, and 3 for high depression responses. Women scoring above 13 are likely to be experiencing depression. The EDS is not specific to PND, however has shown good reliability and validity in both pregnant and postpartum populations (Cox & Holden, 1994; Murray & Cox, 1990), with VanBussel & Spitz (2009) reporting a Cronbach's alpha of .80.

The Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991) consists of 45 items (a=.87), which measure three subcomponents of perfectionism: self orientated perfectionism, other orientated perfectionism, and socially prescribed perfectionism. The self-orientated subscale consists of 15 items and targets the extent that an individual feels an unrealistic need to be perfect. The other orientated subscale consists of 15 items, which identify to what extent an individual places high expectations on others. Finally, the socially prescribed subscale also consists of 15 items. Individuals

with high social perfectionism believe that others have high expectations of them. This scale has been used extensively in relation to women, with a cronbach's alpha of .83, (Hewitt et al., 1991) however only in one instance for pregnancy (Dimitrovsky et al., 2002).

Answers are provided on a 7-point Likert scale, with7 representing strongly agree, and 1 representing strongly disagree. The minimum raw score is 15 for each scale, and the maximum is 105. Raw scores are converted to t-scores based on community sample norms. A t-score less than 50 is considered normal, 55-59 is moderately perfectionist, and 60 or above reflects elevated levels of perfectionism, which may leave individuals at risk of pathological outcomes.

Data analysis

Data was entered into IBM SPSS (Version 20) for statistical analysis. Tests for normality were calculated for all variables. Calculations of skewness and Kurtosis revealed the data for all measures did not differ significantly from normal distribution and thus, parametric tests were used in analysis.

The internal consistency of the AMOM-R was determined by calculating a Cronbach's alpha and further improvements were identified through question deletion. The internal consistencies of the EDS and the social, other and self-orientated perfectionism scales of the MPS were also calculated.

The demographic variables were categorized for analysis. For age, the demographics were categorized into: women under 20, women aged 21-30, aged 31-40 and women over 40. Ethnicity was categorized as white British, any Asian ethnicity, any black ethnicity and any other white ethnicity. The remaining groups were dichotomous:

in a co-inhabiting relationship, or single; degree level education or below; employed full time or less than full time; and planned or unplanned pregnancy.

Participants from different demographic groups were compared across measures, using t-tests for dichotomous demographic variables and ANOVA to compare non-dichotomous categorical variables. For data with a significant Levene's test for homogeneity of variance, the t-value was provided for non-assumed equal variance.

Scores for each AMOM-R subscale were correlated with the scores on the MPS and EDS to assess construct validity. A significance level of .05 was used for all statistical analysis.

Results

Demographics

Table 2 shows a comparison between the demographics of this sample and the demographics of the previous Australian sample (Roncolato & McMahon, 2012). For marital status, education, and whether the pregnancy was planned, the two samples are consistent. Participant employment was noticeably different between the two samples, with 37.8% of Australian participants in full time employment compared to 66% of the current UK sample. The Australian sample also had a larger proportion of Caucasian participants compared to the UK sample (95.7% and 61% respectively).

Table 2 Comparison of demographics from current sample and Australian sample

		Current UK Sample		Australian Sample*	
Characteristic	Sample Feature	Freq.	%	Freq.	%
Marital status	Partner	41	87.2	221	96.1
Education	University degree	31	62	147	63.9
Planned Pregnancy	Planned	38	70.4	190	82.6
Current Employment	Full time	33	66	87	37.8
Ethnicity	Caucasian	33	61	220	95.7

*Data from Roncolato & McMahon (2012)

Internal consistency

The Cronbach's alpha coefficients for all measures are presented in Table 3.

EDS

The internal consistency of the EDS for this sample was good, with a Cronbach's alpha of .80. The EDS had a mean of 6.81 and a standard deviation of 4.02. These statistics are consistent with those outlined by VanBussel & Spitz (2009). A clinical cut off, identified as scores above 13, was applied, revealing 8% of this sample met the EDS criteria for clinical depressive symptoms.

MPS

The internal consistencies of the three MPS subscales in this sample ranged from acceptable, to good, with the MPS Other subscale scoring a Cronbach's alpha of .65, the MPS Self subscale scoring .78, and the MPS Social subscale scoring .84.

The coefficients for the MPS subscales in this non-clinical sample follow the same trend, however are marginally lower than those presented for a clinical sample by Hewitt, Flett, Turnbull-Donovan & Mikail (1991), as would be expected. A clinical cut off was applied to each subscale, identified as scores over 60, which revealed 16.7% of the

sample had clinical levels of self-orientated perfectionism, 7.4% met clinical criteria for other orientated perfectionism, and 5.6% had clinical levels of socially prescribed perfectionism.

Table 3 Cronbach's Alpha coefficients (*N*=50)

Measure	N (Items)	α	M	SD	Range Potential	Actual	Clinical (%)
AMOM-R Regulator	8	.64	15.1	5.92	0-40	2-26	5.6[1]
AMOM-R Facilitator	10	.65	35.0	6.41	0-50	22-49	44
EDS	10	.80	6.18	4.02	0-30	0-19	8
MPS Self	15	.78	68.86	11.93	15-105	48-98	16.7
MPS Other	15	.65	55.46	10.04	15-105	25-83	7.4
MPS Social	15	.84	50.4	13.17	15-105	25-83	5.6

1 Facilitator and regulator clinical cut off scores were calculated as one standard deviation above the mean

AMOM-R

For the AMOM-R subscales, a cut off for strong facilitators and regulators was decided as individuals scoring one standard deviation above the subscale mean. Thus, for regulators, this was participants scoring 21.02 or higher on the regulator subscale, and for facilitators this was scoring 41.41 or higher on the facilitator subscale. 50% of this sample could be classified as having a facilitator or regulator maternal orientation using this method, with the remaining 50% holding a reciprocator, or non-extreme, orientation. Table 3 shows that the current sample endorsed more facilitator tendencies with 44% of the sample being identified as facilitators and 5.6% as regulators. As cut offs were not calculated in the previous study, continuous variables were used in analysis for direct comparison, rather than scores within the clinical cut off.

Table 4 demonstrates the mean scores for the facilitator and regulator subscales obtained in this sample were comparable to those by Roncolato & McMahon (2012).

Roncolato & McMahon (2012) reported a regulator subscale mean of 14.0, and a

facilitator subscale mean of 33.09. For this sample the mean scores were 15.1 and 35.0

respectively.

Table 4 Comparison of AMOM-R findings between UK and Australian Sample

| | UK sample | | Australian Sample | |
	Regulator	Facilitator	Regulator	Facilitator
α	.64	.65	.71	.72
M	15.1	35.00	14.00	33.09
SD	5.92	6.41	6.09	6.19
Range	2-26	22-49	0-31	14-48

For the AMOM-R Regulator subscale the Cronbach's alpha coefficient was

acceptable at .64. Deletion of items only marginally improved the alpha level. Based on

our proposed cut off of one standard deviation above the mean, the sample consisted of

only 5.6% regulators (*n*=8) therefore it is difficult to assess the utility of each question.

For the facilitator subscale however, whilst an acceptable Cronbach's alpha

coefficient emerged, the internal consistency could be improved from acceptable ($60< \alpha$

> 70), to good ($70< \alpha > 80$). These ranges are based on those outlined by Kline (2000).

The deletion of three items from the facilitator subscale improved the internal

consistency from .65 to .80 (Table 5), reducing this scale from 10 items, to 7

Table 5 Question deletion to improve AMOM-R internal consistency

Step	AMOM-R Facilitator question deletion	Initial α	New α
1	I intend to mostly breastfeed	.65	.72
2	After several months, I intend to feed my baby on demand	.72	.76
3	To begin with, I intend to feed my baby on demand	.76	.80

Table 6 shows the frequencies of responses to each facilitator subscale question. For the facilitator subscale, deleting questions 5, 6 and 7 improved the internal consistency. For Questions 5 and 7, over 80% of participants agreed with these statements, therefore indicating a strong facilitator response from the majority of participants. Finally, the majority of participants endorsed a positive regulator response to Question 6 despite the sample consisting of more facilitators.

Table 6 Frequencies of responses to each AMOM-R facilitator subscale question (*N*=50)

Facilitator Subscale Questions	Agree (%)	Disagree (%)
(Q1) My baby will fit easily into my life	78	22
(Q2) My baby will be born being able to communicate with me	72	28
(Q3) My baby will be like someone that I already know	84	16
(Q4) My baby will be born knowing what is best for him or her	38	62
*(Q5) To begin with, I intend to feed my baby on demand**	90	10
*(Q6) After several months, I intend to feed my baby on demand**	36	64
*(Q7) I intend to mostly breastfeed**	86	14
(Q8) In the first few weeks I will be mostly feeling fulfilled	88	12
(Q9) In the first few weeks I will mostly be enjoying the new way of life	100	0
(Q10) My baby will be able to tell who I am from early on	96	4

* Questions that improve Cronbach's alpha when deleted

Table 7 Inter-correlations between facilitator maternal orientation subscale questions

	1	2	3	4	5	6	7	8	9	10
1. My baby will be able to tell who I am from early on	-	.317*	.420**	.495**	.253	.299*	.024	.107	.193	.312*
2. My baby will fit in easily into my life	-	-	.412**	.480**	.462**	-.249	.065	-.301*	.501**	.480**
3. My baby will be born being able to communicate with me	-	-	-	.499**	.593**	.084	-.031	-.128	.303*	.337*
4. My baby will be like someone that I already know	-	-	-	-	.359*	.107	.009	-.036	.413**	.423**
5. My baby will be born knowing what's best for him/her	-	-	-	-	-	-.039	.021	-.338*	.093	.186
6. To begin with, I intend to feed my baby on demand	-	-	-	-	-	-	.202	.452**	-.065	-.131
7. After several months, I intend to feed my baby on demand	-	-	-	-	-	-	-	.162	.129	.113
8. I intend to mostly breastfeed	-	-	-	-	-	-	-	-	-.150	-.166
9. I will be mostly feeling fulfilled	-	-	-	-	-	-	-	-	-	.660**
10. I will be mostly enjoying a new way of life	-	-	-	-	-	-	-	-	-	-

* Significant at p<.05 level   ** Significant at p<.001 level

Table 7 illustrates the correlations between individual questions on the facilitator subscale of the AMOM-R. The Cronbach's alpha was improved through deleting questions 6, 7 and 8. The table demonstrates that question 8 (I intend to mostly breastfeed) correlated significantly with three of the remaining nine questions, questions 2 and 5 at a p< .05 significance level, and question 7 at a p<.001 significance level. It failed to correlate significantly with the remaining four questions in the facilitator subscale. The second question deleted to improve the Cronbach's alpha, question 7 (After several months, I intend to feed my baby on demand), failed to significantly correlate with any of the other nine questions on the facilitator subscale.

The final question deletion that improved the Cronbach's alpha was question 6 (To begin with, I intend to feed my baby on demand). This question only significantly correlated with question one. It should be noted, that following the deletion of these questions, the majority of the remaining insignificant correlations are associated with question 5 (My baby will be born knowing what's best for him/her). Deletion of this question only marginally improved the Cronbach's alpha from .80 to .81, thus its deletion is not required.

Whilst there is an increased risk of a type 1 error due to multiple correlations, it was deemed that the Perneger (1998) stance not to utilize a Bonferoni correction may be more valuble, due to the nature of the correlations. As this involved highlighting questions that may reduce the efficacy of the study, and the sample size could have been more substansive, it felt appropriate to neglect to use a Bonferoni correction. A false positive in this instance would not significantly hinder the findings.

Construct validity

To determine the construct validity of the AMOM-R, it was examined in relation to demographic variables (Table 8) and measures of two known factors to influence PND (EDS and MPS; Table 9).

ANOVA's performed on non-dichotomous variables (age and ethnicity) revealed no significant effect of age or ethnicity on either the facilitator or regulator subscale. Mean facilitator age was 30 years, marginally higher than that of regulators (27 years), however not significant. T-tests performed on the remaining dichotomous variables concluded an insignificant relationship between each variable and the facilitator and regulator scores, implying that facilitator and regulator maternal orientations are independent of key demographic variables.

The demographic variables were also assessed in relation to scores on the EDS and MPS subscales. A significant difference emerged between the mean EDS scores of women educated to degree level, and women not attending university; t(50)=-2.15, p=.04. The negative t-value indicates that women with university degrees had significantly lower levels of antenatal depression than women not attending university. A similar trend emerged between women in full time employment, and women employed less than full time, t(50)=-2.99, p=.02, with women in full time employment having significantly lower antenatal depression scores than women employed less than full time. The most significant difference in EDS scores emerged between women who's pregnancy was planned, and women who had unexpected pregnancies. First time mothers who did not plan their pregnancy had significantly higher antenatal depression scores than those who had planned their pregnancy; t(50) = -2.56, P= .01. Finally, there was an insignificant negative trend towards women in a married or co-inhabiting relationship having lower EDS scores than single first time mothers; t(50)=-.79, *p*=.08.

Table 8 Influence of demographics on measures

	Age		Ethnicity		Married		Education		Employment		Planned	
	p	*F*	*p*	*F*	*p*	*t*	*p*	*t*	*p*	*t*	*p*	*t*
AMOM-R Regulator	.34	1.14	.75	.56	.75	-.50	.22	1.24	.57	-.59	.48	.72
AMOM-R Facilitator	.90	.19	.74	.60	.74	-.68	.12	1.60	.85	-.19	.59	-.54
MPS Self	.18	1.44	.65	.75	.53	.63	.92	.11	.76	-.31	.36	.92
MPS Other	.63	.86	.77	.61	.28	1.10	.51	.67	.38	.89	.28	1.10
MPS Social	.36	1.14	.17	1.55	.07	1.89	.85	.19	.91	.12	.38	-.90
EDS	.72	.77	.44	1.02	.08	-.79	.04*	-2.15	.02*	-2.99	.01*	-2.56

* Significant at the p<.05 level

To determine the construct validity of maternal orientation, correlations were performed between perfectionism, depression, and each maternal orientation subscale. The results are shown in Table 9. A Pearson product-moment correlation coefficient was computed to assess the relationship between regulator maternal orientation and antenatal depression. There was a positive correlation between the two variables, $r = .403$, n = 50, $p = .004$. This correlation indicates that women in this sample scoring higher on the regulator scale had higher rates of antenatal depression. There was no significant relationship between facilitator orientation and antenatal depression. Subsequently, a significant, negative correlation coefficient emerged regarding the relationship between facilitator maternal orientation and both self and other perfectionism ($r= -.391$, n = 50, $p= .005$; $r = -.34$, n= 50, $p= .016$ respectively). The negative correlation indicates that women scoring highly on the facilitator orientation subscale had lower scores for both self and other orientated perfectionism. They also demonstrated a trend towards reduced socially orientated perfectionism, however this was not significant ($r= -.274$, n= 50, $p= .054$).

Finally, Table 9 indicates that the three subscales of perfectionism positively correlated with one another, indicating that women scoring highly on one perfectionism measure, also scored highly on the remaining two measures.

Table 9 Inter-correlations among measures: AMOM-R, EDS and MPS (*N*=50)

Measure	1 P	1 t	2 P	2 t	3 P	3 t	4 P	4 t	5 P	5 t	6 P	6 t
1. AMOM-R Regulator	-		.111	-.226	.004**	.405	.250	.166	.237	.170	.360	.132
2. AMOM-R Facilitator	-		-		.484	-.101	.005**	-.397	.016*	-.342	.054	-.271
3. EDS	-		-		-		.315	.145	.869	-.024	.074	.255
4. MPS Self	-		-		-		-		.001**	.461	.000**	.581
5. MPS Other	-		-		-		-		-		.000**	.529
6. MPS Social	-		-		-		-		-		-	

* Significant at *P*<.05   ** Significant at *P*<.001

Discussion

The theoretical concept of maternal orientation has been well documented, and differing maternal orientations have been explored in research using multiple report scales (Roncolato & McMahon, 2012) The AMOM-R is a reduced version of the AMOM and is thought to most reliably discriminate between maternal orientations. Thus far, this measure has only been used in one known study, however these authors reported positive findings with respect to internal consistency and construct validity with an Australian population. Therefore, this study aimed to further validate the AMOM-R in its ability to identify women with a strong facilitator or regulator orientation, using a UK sample. It also considered the construct validity of the AMOM-R using two known factors (antenatal depression and perfectionism) to further current understanding of the theory of maternal orientation.

Demographics

The first stage of analysis focused on the demographics of the current UK sample, and the previous Australian sample (Roncolato & McMahon, 2012). On many of the demographics, the two samples were similar. For example, 82% of the UK sample were either married or living with their partner, compared to 96% of the Australian sample. This indicates that in both samples, the majority of participants were married. Similarly, an equal number of participants across both samples had obtained a minimum education of attending university. Finally, the majority of participants in both samples reported a planned pregnancy. Roncolato & McMahon (2012) indicated that regulator orientations are more common in unplanned pregnancies, and also when there is no one to share the burden of pregnancy and child care (Raphael-Leff, 1985a). High prevalence of planned pregnancies and partnered relationships could reduce the number of women identified in both of these samples as having a regulator orientation.

As many of the demographics assessed in the two samples were similar, this would suggest that the results would subsequently be similar if the measure was reliable. Interestingly, there were two noticeable differences. Firstly, a larger proportion of the UK sample was in full time employment. Due to lack of information regarding the Australian sample, it is not possible to know whether those participants not in full time employment were employed, worked part time, or had partners working full time. As previously discussed, life stressors and antenatal stress can increase a woman's risk of developing PND (Beck, 2001). Unemployment could be considered a life stressor, and has further been identified as a risk factor for regulators developing PND (Raphael-Leff, 1985a). If regulators are unemployed, they are unable to return to the adult life they crave. Therefore it would be beneficial to identify the employment status of those women in the Australian sample that are not in full time employment. With few women in the Australian sample in full time employment, it is possible that there would be fewer regulators present in this sample, which would make assessment of the regulator subscale less reliable.

The second difference between the two samples regards ethnicity. The UK sample was 61% White British, 11% White Other[1], 9.3% Asian[2], 7.4% Mixed Background[3] and 3.7% Black. According to the Office for National statistics (2011), White British is the largest ethnic population in Birmingham (53%) with the second largest ethnicity being Asian (19.5%), predominantly Asian Indian. As the majority of the sample for this study was White British, it was broadly representative of the Birmingham population. There were fewer participants describing themselves as Asian than would be expected, however there were subsequently greater numbers of

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[1] White other incorporates: White other and White Irish
[2] Asian incorporates: Asian Pakistani, Indian, Bangladeshi and any other Asian background
[3] Mixed background incorporates: Mixed white/black Caribbean and Mixed other

participants considering themselves "White Other", many of whom were from European countries. Thus, it is possible that since the 2011 census there has been a greater influx of individuals from European countries. Furthermore, it is possible that the midwifery teams used for recruitment were in less diverse areas of Birmingham.

In the Australian sample, 95% of the participants were described as Caucasian. The Australian Bureau of Statistics (2011) however, reflects a Chinese population that was not represented in this sample. In some ways, the UK sample is comparable to the Australian sample, however the UK sample consisted of more mixed ethnicities and was more reflective of the local population.

Reliability

Responses to the AMOM-R from this sample were compared to the responses from the Australian study (Roncolato & McMahon, 2012) to assess the reliability of the measure. Reliability is the extent that two samples provide consistent results. Previous research indicated that the medical advice presented to pregnant women, and the incidence of postnatal depression, were consistent across Australia and the UK (Cox et al., 1993).Based on this, it was expected that the samples would not differ significantly in their responses on the AMOM-R.

The mean scores and standard deviations for each subscale in this sample were comparable with the Australian sample. Thus, the AMOM-R scores have been consistent across the two samples, reflecting good reliability.
The AMOM-R was able to identify 44% of the current sample as women with a facilitator orientation and 5.6% of the sample as women of a regulator orientation. The previous study elected to remove the bipolar response scales, however failed to calculate cut off to identify women with extreme maternal orientations, thus it is not possible to compare these figures to other findings for reliability. For this study, a clinical cut-off to

identify strong facilitator and regulator orientations was briefly explored using one standard deviation above the mean. It would be beneficial to develop a gold standard clinical cut off for the AMOM-R, however further studies are required to incorporate a wider range of responses and calculate generalizable subscale means. Following this, one standard deviation can be considered to highlight strong orientations, with an option for two standard deviations to represent extreme, highly vulnerable women.

One difference between the Australian sample and the current sample was the range of scores on the facilitator subscale. The Australian sample scores ranged from 14-48, whilst the lowest facilitator subscale score in the current sample was 22-49. This is most likely due to the smaller sample size of the current sample, which might be expected to yield a narrower range of scores.

Internal consistency

Internal consistency is the extent in which individual items in a response scale correlate with each other. A high correlation indicates that the questions are measuring the same construct and that participants are responding to each question in a similar way. Roncolato & McMahon (2012) presented good internal consistency scores for their sample; with the regulator subscale having a Cronbach's alpha of .71 and the facilitator subscale having an alpha of .72. The internal consistency for each subscale of the AMOM-R in this sample was slightly lower than that reported by Roncolato & McMahon (2012). The Cronbach's alpha for the regulator subscale was .64 and was.65 for the facilitator subscale. These were both .07 lower than the Cronbach's alpha reported for the Australian sample. There were insufficient numbers of women scoring highly enough on the regulator subscale to assess the utility of the individual regulator subscale questions. It is likely that with a larger sample size, a larger proportion of women would be identified, allowing more in depth exploration. Conversely, however, 'I will mostly be

feeling trapped' is the regulator subscale alternative to ' I mostly be feeling fulfilled.' The contrast between these two adjectives is stark, with one clearly being heavily negatively weighted. As previously outlined, many mothers find it difficult to express negative opinions regarding motherhood (Hall, 2006), therefore the regulator expression of "feeling trapped" would inevitably be harder for women to endorse (For frequencies see Appendix B). There is a chance that the low numbers of regulators in this sample are to some extent due to the wording of the regulator subscale. Further research may be beneficial to consider the effects of decreasing the severity of the adjectives used in the regulator subscale, to allow women to endorse them more openly.

It was possible, however, to improve the Cronbach's alpha of the facilitator subscale. Three items were identified as being unreliable in identifying women of a strong facilitator maternal orientation. The first was "I intend to mostly breastfeed." Removing this question improved the Cronbach's alpha from .65 to .72, placing it in line with the Australian sample. Breast-feeding is actively promoted in both Australia and the UK. In Australia, 96% of infants are breastfed exclusively following birth (AIHS, 2011) whilst in the UK 81% were breastfed exclusively (NHS information centre, 2012). These statistics highlight that the majority of women elect to breastfeed. 86% of the women in this study reported that they would initially breastfeed, which is representative of the national published statistics. Since 2005, the NHS heavily emphasizes the promotion of breastfeeding to pregnant women due to the biological advantages to the child (Cattaneo et al., 2005). Due to this, there are two possible explanations for this question being less reliable in identifying women of a strong facilitator orientation. Firstly, the majority of women in this study were approached in GP surgeries whilst attending antenatal appointments. This setting could generate a social desirability bias in which women may respond positively to breastfeeding, despite

endorsing alternative personal beliefs. An alternative explanation could be that the biological advantage of breast feeding is widely recognized in modern society and thus, more women may elect to breastfeed for the benefit of their child, despite their otherwise regulator orientation. Thus, it may be that Raphael-Leff's (1998) proposition that women of a regulator orientation elect to bottle feed to allow for distribution of child care, may no longer be accurate. It is clear that in this sample, the notion of breast-feeding failed to effectively distinguish between women of a facilitator or regulator orientation.

Following the deletion of this question, the Cronbach's alpha could be further improved from .72 to .76 for this sample, through deleting question 7: "after several months, I intend to feed my baby on demand." Responses to this question failed to positively correlate with responses to any of the remaining eight questions for this sample. This implies that this question is not targeting characteristics of a facilitator maternal orientation.

Interestingly, in conjunction with this, the third question that would improve the Cronbach's alpha also targets feeding schedules: "To begin with, I intend to feed my baby on demand." This question failed to correlate with the majority of questions on the facilitator subscale. Most significantly, it negatively correlated with the facilitator characteristic of expecting to feel fulfilled following childbirth. This means there was an insignificant trend towards women who reported strongly believing they would feed their child on demand at first, also not believing they would feel fulfilled. As feeling fulfilled significantly correlated with other questions, it appears that this is targeting facilitator characteristics, and feeding schedules are not.

Interestingly, 90% of participants responded positively to feeding their baby on demand at first. Due to this, the question is not able to identify women with strong

facilitator orientations from women with regulator orientations. A possible explanation for the positive response to this question could be advice provided by midwives regarding feeding schedules. The NHS recommends feeding a baby whenever it indicates hunger. Many hospitals practice self-demand feeding as it results in the child feeding better at the breast and increases milk production (Iacovou & Sevilla, 2013). Furthermore, the WHO recommends baby led feeding:

> "Mothers of normal babies (including caesareans) who are breastfeeding should have no restrictions placed on the frequency or length of their babies' breastfeeds. They should be advised to breastfeed their babies whenever they are hungry or as often as the baby wants"(WHO, 1992).

This advice could reduce the distinction between facilitators and regulators regarding feeding schedules, with many regulators choosing on demand feeding, as advised by healthcare workers. This operated in conjunction with the possibility of more regulators electing to breastfeed, as breastfeeding mothers are advised to feed on demand to encourage milk production (WHO, 1992). Therefore, more women electing to breastfeed will most likely result in more women electing to initially feed on demand.

Following the deletion of these three questions, the AMOM-R reliably consisted of seven questions, with the majority of these questions correlating with each other at the $p<.001$ level. This reflects that these questions are all identifying characteristics associated with one another; in that women responding positively to one question also respond positively to subsequent questions in the subscale. This provides strong evidence that the AMOM-R facilitator subscale is efficient in identifying women with a strong facilitator maternal orientation.

Further research would be required to determine whether the three unreliable questions identified using this sample are subsequently unreliable in further samples, and therefore would require permanent removal.

Construct Validity

Construct validity is the extent that the AMOM-R is assessing maternal orientation and the extent that the theory of maternal orientation is a valid predictor of PND. Thus, the results of the AMOM-R were correlated with the results from other measures that are subsequently known to predict PND.

AMOM-R and Depression

According to Rapheal-leff's (1983) theory of maternal orientation, a regulator sees a developing baby as a parasite, feeding on her resources. She is also irritated by feeling tired and distracted by the baby's movements. Sharp & Bramwell (2010) proposed that a regulator would be most vulnerable to developing PND either whilst pregnant, or in the first six to eight weeks postpartum. Therefore, one method to assess the construct validity of the AMOM-R was to compare it to ratings of antenatal depression, using the EDS. It was expected that women scoring highly on the regulator maternal orientation subscale, would subsequently have higher levels of antenatal depression than women scoring highly on the facilitator subscale.

In line with the hypothesis, there was a significant positive relationship between regulator maternal orientation and antenatal depression. This suggests that women scoring highly on the regulator subscale, subsequently scored highly on the EDS, implying greater antenatal depression. These findings support the notion that women

with regulator maternal orientations are more vulnerable to antenatal depression. Subsequent follow up analysis would be required to determine whether this further linked to development of PND. Despite the small sample size and the small proportion of participants that reached the devised clinical cut off for being identified as holding strong regulator beliefs, this correlation emerged as significant at the $p<.001$ level. This implies that there is a very strong relationship between regulator maternal orientation and antenatal depression. The hypothesis is further supported by the lack of significant relationship between high facilitator scores and antenatal depression.

As these findings support the background literature regarding regulator maternal orientation and antenatal depression, it implies good construct validity of the AMOM-R; in that the theory of maternal orientation has been supported by other known factors, and that a regulator maternal orientation was able to predict antenatal depression.

AMOM-R and Perfectionism

Perfectionism has been identified as a risk factor for developing PND, more specifically, socially orientated perfectionism. Rapael-Leff's (1983) theory of maternal orientation indicates that women of a facilitator orientation take a baby-led stance on parenting, in that they believe their baby knows best regarding their care. If this theoretical concept were accurate, a facilitator would be less likely to endorse perfectionism traits, as they are not placing any demand on themselves, nor do they feel demands from any other individual.

This hypothesis is supported by the results of this study. There was a significant negative relationship between facilitator maternal orientation and self orientated perfectionism. This means that the more strongly a woman endorsed facilitator

characteristics, the lower she scored on the MPS measure of self-orientated perfectionism. This relationship was significant at the $p<.001$ level, indicating a very strong relationship. Further support arises from the other orientated perfectionism subscale. Again, there was a significant negative relationship between facilitator orientation and scores on this perfectionism subscale. Finally, despite the relationship not being significant, a negative trend emerged between facilitator orientation and socially prescribed perfectionism.

This sample consisted of a substantial number of women scoring more than one standard deviation above the facilitator subscale mean, and therefore meeting the decided criteria for clinical cut off. This indicates that there are sufficient data to calculate this relationship between facilitator orientation and reduced perfectionism. This result provides further support for the construct validity of the theory of maternal orientation and the AMOM-R in measuring it.

Limitations

Despite the positive findings from this study, it is not without limitations. The most significant limitation this study faced was a small sample size. This was beyond researcher control due to time constraints and delayed approval from the ethics board. The sample size of this study was significantly smaller than that of the Australian comparison study (Roncolato & McMahon, 2012). Despite this, the results were predominantly comparable with the Australian sample, and significant findings emerged, representing the strength of the associations.

A second limitation was the small number of women strongly endorsing regulator characteristics. This resulted in insufficient findings to assess the internal

validity of the regulator subscale. It appears that facilitator orientations may be more common, and thus a larger sample size may identify more women endorsing a regulator orientation.

A final limitation to consider is the location of the research. The majority of women took part in a GP surgery, whilst waiting for an antenatal appointment. It is highly possible therefore that social desirability may have influenced their responses, for example more women may have reported intending to breastfeed due to it being an accepted social convention, regardless of their individual beliefs. Future research should attempt to control for social desirability by conducting the research away from medical facilities.

Conclusions

The results of this study indicate that the facilitator subscale of the AMOM-R has good internal consistency and has provided reliable results across two samples with varying ethnicity and employment status. Despite this, there is potential to improve the measure through removing three questions. Following this, the remaining seven questions reflect high internal consistency. Further research should focus on whether these three questions fail to significantly correlate with the remaining questions in the subscale, and subsequently should be permanently removed.

Furthermore, this study supports the theoretical concept of maternal orientation. Regulators in this study were more likely to experience antenatal depression, in line with expectation, and facilitators expressed reduced perfectionism, supporting the assumption of facilitators assuming a baby-led parenting style. The wider study is researching whether maternal orientation can be a predictor of PND by following

women up six weeks postpartum. The results of this will conclude the full utility of the

AMOM-R as well as the extent that maternal orientation can accurately be used as a

predictor of PND.

Appendix A

Regulator Subscale	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
- My baby will be like a stranger at first						
- My baby will be unable to tell me apart from other people early on						
- To begin with, I intend to feed my baby at set times						
- I intend to mostly bottle feed						
- I will be mostly trying to get the baby into a routine						
- I will be mostly feeling trapped						
- I will be mostly waiting for things to get back to normal						
- After several months, I intend to feed my baby on demand						
Facilitator Subscale	**Strongly Disagree**	**Disagree**	**Slightly disagree**	**Slightly agree**	**Agree**	**Strongly agree**
- My baby will be like someone that I already know						
- My baby will be able to tell who I am from early on						
- To begin with, I intend to feed my baby on demand						
- After several months, I intend to feed my baby on demand						
- I intend to mostly breastfeed						
- I will mostly be feeling fulfilled						
- I will be mostly enjoying the new way of life						
- My baby will fit easily into my life						
- My baby will be born being able to communicate with me						
- My baby will be born knowing whats best for him/her						

Appendix B

Table 10 Frequencies of responses to AMOM-R Regulator questions (N=50)

Question	Agree (%)	Disagree (%)
Regulator Subscale		
(Q2) My baby will be like a stranger at first	22	78
(Q3) My baby will be able to tell who I am from early on	96	4
(Q18) In the first few weeks I will mostly be waiting for things to get back to normal	22	78
(Q4) My baby will be unable to tell me apart from other people early on	14	86
(Q9) To begin with, I intend to feed my baby at set times	36	64
(Q10) After several months, I intend to feed my baby at set times	78	22
(Q13) I intend to mostly bottle feed	34	66
(Q14) In the first few weeks I will be mostly trying to get the baby to adapt to a routine	74	26
(Q16) In the first few weeks I will mostly be feeling trapped	14	86

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