Mentalization theory as an organisational framework:

An evaluation of the AMBIT (Adolescent Mentalization-Based Integrative Treatment) approach

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Thesis declaration form

I confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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OVERVIEW

This thesis focuses on the novel use of mentalization theory as an explicit organisational framework and its impacts on team effectiveness. The research project was jointly conducted with two other trainee clinical psychologists, Paul Gelston (2015) and Rashal Ullah (2015).

Part one of the thesis presents the literature review and categories team effectiveness findings in the mental health care literature, with a particular focus on team input and process factors. The final 22 studies identified team input and process factors that contributed to clinical effectiveness of mental health services. However, there was a lack of rigorous conceptualization of team dimensions, processes, traits and outcomes, with certain team factors being under-researched in mental health settings.

Part two is the empirical research paper, which evaluates the use of Mentalization theory in improving team-working as used by AMBIT (Adolescent Mentalization-Based Integrative Treatment). It investigates whether teams using AMBIT have greater team effectiveness, greater reflective capacity, and different coping styles to stress compared to other teams working with similar client groups. The findings suggest that a mentalizing organizational framework may contribute to adaptive coping responses. The staffs' coping styles was also associated with increased sense of participative safety in the team. There was no difference in team effectiveness between AMBIT teams and other teams, when controlled for covariates.

Part three critically appraises this work. The experience of conducting the thesis is examined with suggested retrospective improvement to the study. Reflections on the issues that arose during the process of research are highlighted.

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Part 1:

Literature Review on Team Factors that Improve Mental Health Service Provision

ABSTRACT

Aims: This literature review used the Integrated (Health Care) Team Effectiveness Model (ITEM) to categorise team effectiveness findings in the mental health care literature. Studies that measured team input or process variables using patient care- related outcomes (direct or indirect) were considered.

Method: A systematic literature search was conducted using MEDLINE, Web of Science, PsychINFO, and Cochrane electronic databases. A predefined set of exclusion and inclusion criteria was used to identify as relevant and articles.

Results: The final 22 studies in this review were categorised according to the variable they were evaluating (i.e. input or process factors) and this was guided by the description of the ITEM.

Conclusion: The review identified input (e.g. organisational input, task clarity) and process factors (e.g. communication, participation in decision making, team composition) that increased clinical effectiveness of mental health services. However there was a lack of rigorous conceptualization of team dimensions, processes, traits and outcomes. Thus there are gaps in the literature with certain team factors e.g. psychosocial traits, being under-researched in mental health settings.

1 INTRODUCTION

1.1 Overview

Team-working in healthcare is the recommended way of providing holistic care because it allows providers to effectively synthesise and apply knowledge from a variety of disciplines, in order to produce the best outcome (Department of Health and Social Security, 1981; Gilmore, Bruce, & Hunt, 1974). Multidisciplinary teams (MDT), also known as cross-functional teams, are now an integral feature of health care delivery in acute, long-term, and primary care settings for all clinical populations (Alexander et al., 2005). Effective teamwork is assumed to lead to higher quality decision- making and interventions, increased staff motivation, and in return, better patient outcomes (Bunderson, 2003). Research on team effectiveness has significantly increased in recent years with a particular focus on identifying characteristics of effective teams, developing effectiveness outcome measures, and more recently, intervention studies on improving their effectiveness. Despite the increased interest, there has been no systematic review specifically on teamwork in mental health care. Therefore the current systematic review seeks to summarise the research to date on effective team functioning, in services providing for the mental health population.

In the UK the Ministry of Health recommended that team-working was the way in which primary care could best be delivered, proposing that general practitioners should work in teams with other healthcare professionals in health centres (Milne, 1980). Later publications supported this idea including the Harding Report (Department of Health and Social Security, 1981) that established teamwork as the best way to co-ordinate community care. The Department of Health (DH) and National Health Service (NHS) continue to reinforce the World Health Organisation

(1978) emphasis on the importance of team-working through numerous policy documents (Department of Health, 1987, 1996, 2005).

More recently, the importance of MDT to deliver an efficient level of care has been further emphasised in the NHS through the introduction of Payment by Result (PbR). This activity- based payment system was developed against the backdrop of a tight financial climate with the intention to emphasise efficacy, clinical outcomes and patient centeredness in services (Department of Health, 2002; Horton, 2007). This scheme was extended to mental health services in 2013 – 2014. Healthcare teams in the U.K therefore have a direct impact on the funding that their organisation receives, through their work to deliver high quality care and to achieve better outcomes (Lee et al., 2013). The added pressures of restructuring, reorganization and cost containment, makes it imperative to understand what aspects of team working in health care services affect clinical effectiveness.

1.2 The science of team effectiveness: how health care teams can be studied

Team effectiveness research prevails in the organizational literature but is relatively scarce in healthcare research, and is consequently poorly conceptualised. Firstly the definition of a team needs clarity and consistency in the literature, as advocated by researchers in the field (Opie, 1997; Schofield & Amodeo, 1999), because it can give rise to interpretive difficulties. A consistently used definition in recent healthcare literature (Buljac-Samardzic, Dekker-van Doorn, van Wijngaarden, & van Wijk, 2010; Lemieux-Charles & McGuire, 2006) is that of organizational researchers Cohen and Bailey (1997) who define a team as

"A collection of individuals who are interdependent in their task, who share responsibilities for outcomes, who see themselves and who seen by others as an

intact social entity embedded in one or more larger social systems (for example, business unit or corporation), and who manage their relationships across organizational boundaries. (p. 241).

To conceptualise the aspects of a team that influence team effectiveness outcome, several theoretical models have been developed using the input-process-output (IPO) structure due to its categorical simplicity and utility (Cohen & Bailey, 1998). The IPO model describes team inputs (e.g. characteristics of the individual, the task, and the organizational structure) that are transformed into team outputs (e.g., patient satisfaction, quality of care, and team member well-being) via team processes (e.g., communication, decision making). Thus the advantage of the model is that the focus of performance assessment can also be shifted from team output to team processes by which an output is achieved. This is key to effectiveness research since teamwork is potentially the essential tool for quality management by linking efficient organizational practice with high quality patient care.

With regards to its application to healthcare teams, Lemieux-Charles and McGuire (2006) amalgamated the IPO model with the work of health care researchers to develop The 'Integrated (Health Care) Team Effectiveness Model' (ITEM) (see figure 1). It proposes that the organizational context of a team (e.g. goals, structure, rewards, training environment), which is established by the social and policy context, influences team inputs, which in return have an influence on team effectiveness outcomes via the interactions of team processes that take place between team members.

Such team processes are distinguished from the team's psychosocial traits, also referred to as emergent states, which are considered to be an epiphenomena

created by the social interactions among team members. They can in turn reciprocally influence it. Emergent states are cognitive (e.g. shared knowledge), motivational (shared beliefs about the team's capacity to perform effectively) and affective (e.g. trust and cohesion) properties of a collective (Kozlowski & Ilgen, 2006).

Team effectiveness outcome is multidimensional and the ITEM model distinguishes between two types of effectiveness outcome, objective and subjective outcomes, to measure the influence the input and group processes factors have. Objective outcomes are threefold because it can either consider measurable improvements in patient outcomes (e.g. functional status, satisfaction) and patient behaviour (e.g. adherence to medical advice), team member behaviour (e.g., absenteeism, prescribing patterns), or organizational outcomes (e.g. efficiency, costs). Subjective outcomes are attitudinal (e.g. perceived team effectiveness) and can be twofold (e.g. patient versus staff perception).

Previous systematic reviews found that teamwork studies usually examined processes or outcomes but not the linkages between them (Lemieux-Charles & McGuire, 2006; Schofield & Amodeo, 1999), making it hard to draw conclusions about what types of teams are effective, what are they effective in and under what conditions. A thematic literature review by Xyrichis and Lowton (2008) considered team-working in primary and secondary care and included CMHTs (community mental health teams), however the themes that emerged linked team process or input to organizational outcomes (e.g. team ability to innovate) rather than to patient related outcomes. There has been continued research interest in healthcare teamwork effectiveness since the date of the mentioned literature reviews, and therefore this systematic review will appraise the literature to date within mental

health care. This review will also focus on the studies that link team input or processes (or both) with patient-related clinical outcome, in order to draw tangible conclusions.

1.3 Applying team effectiveness research to mental health team services

As the health professions have developed over the course of the 20th and 21st century, the literature in teamwork concurrently emerged. Interest in mental health teamwork research increased dramatically in the 1950s and 1960s, with the emergence of social therapies such as therapeutic communities and community based mental health services (Ryan, 1996). Much of the research interest during this time period was on the social structure of psychiatric hospitals, impact of staff behaviour on patient symptomology, role conflicts, practice styles, and professional ideologies. The language of teamwork also evolved and a typology of teamwork distinguished mainly between “interdisciplinary’ and ‘multi- disciplinary’. An interdisciplinary team integrates the approaches of different disciplines and relies on communication processes that are collaborative rather than a shared communication model. A multidisciplinary team utilises the skills and experience from different disciplines without integrating the approaches (Jessup, 2007). However few studies distinguish between the two and the terms are often used synonymously in mental health (Leathard, 2003; Payne, 2000).

Understanding teamwork characteristics can have important implications in translating effectiveness research in psychological intervention to practice in applied clinical settings. One of the most critical issues in mental health services research is the gap between what is known about effective treatment and what is provided to (and experienced by) consumers in routine care in community practice settings.

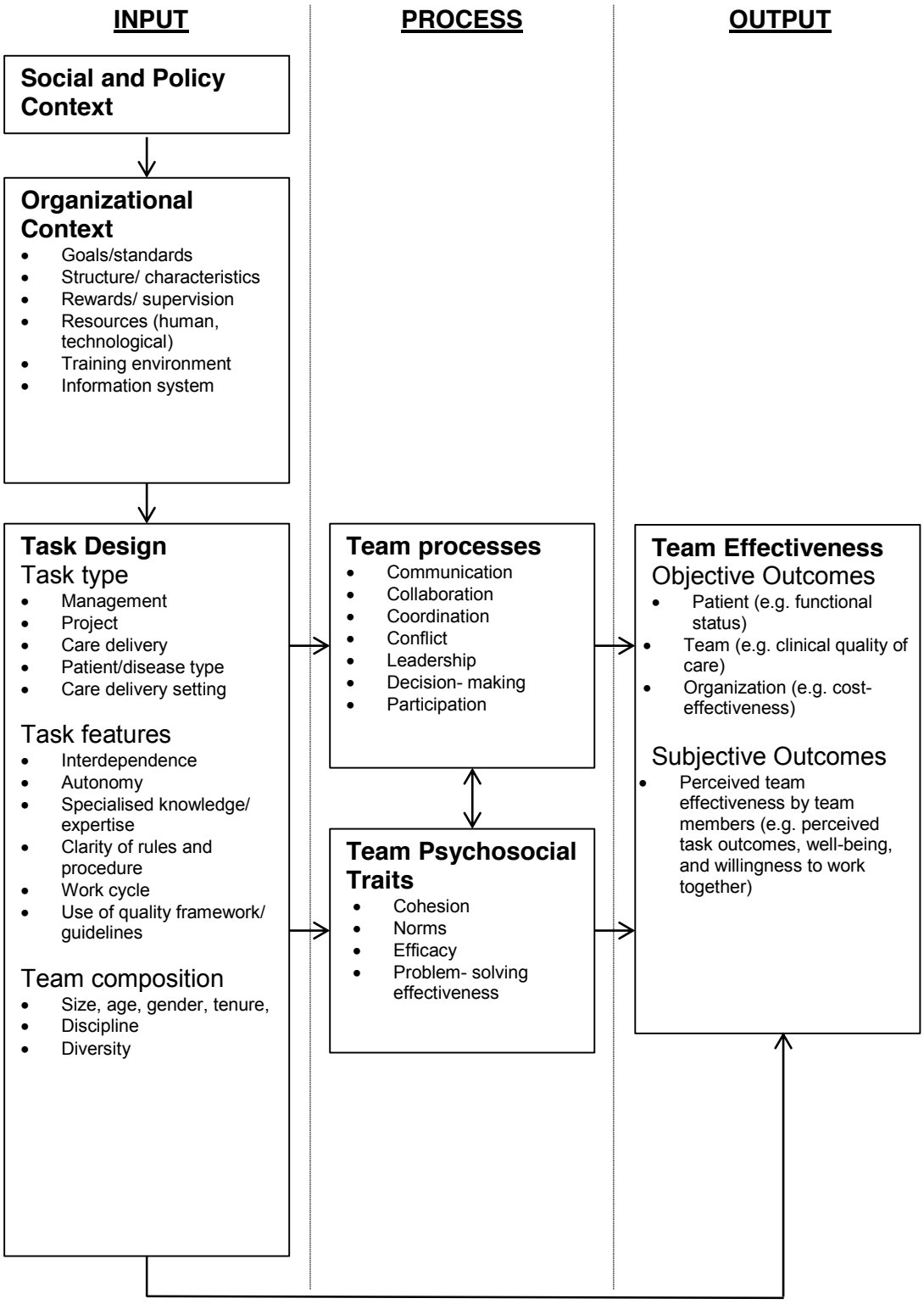

Figure 1: Adapted version of the Integrated (Health Care) Team Effectiveness Model (ITEM) (Lemieux-Charles & McGuire, 2006)

While there is a growing supply of evidence-based treatments, and funding bodies increasingly demand evidence- based care, there is little evidence that such treatment are either adopted or successfully implemented in community settings (Proctor et al., 2009). For example mental health services provided for children and families in community-based settings in the USA are not as effective as the services studies in controlled clinical trials conducted in research settings (Glisson, 2007). Similar disparities are also found in learning disability studies (Dingfelder & Mandell, 2011).

The effectiveness of community based mental health and other health care organizations are affected by many factors including policy, funding and collaborations with other services. It is plausible that most past therapy research in meta-analytic reviews were not conducted under clinically representative conditions that encompassed the other factors; hence their ineffectiveness in applied settings (Shadish, Navarro, Matt, & Phillips, 2000). However some services are more successful than others that operate within the same financial and policy environment (Glisson, 2007). The gap between care that is known to be effective and care that is delivered reflects a paucity of evidence about implementation. While there are several factors integral to implementing effective services, team working and organizational context may be amongst them.

Over the past 10 to 15 years there has been a growing body of studies interested in developing and evaluating teamwork intervention designed to increase teamwork effectiveness. Two recent systematic reviews on the effects of teamwork training identified low quality of evidence (e.g. small sample pre or post-studies, observational studies & case studies) (Buljac-Samardzic et al., 2010) and significant problems with internal and external validity of the evidence (McCulloch, Rathbone, &

Catchpole, 2011). However given the relative novelty of the subject and the nature of the questions, this may not be surprising. Nevertheless McCulloch et al. (2011) emphasised the importance that measures used are valid, reliable and appropriate to intervention. Both systematic reviews also found that studies focused on different team outcomes, mostly used subjective outcome indicators. The disparate measurement techniques decreased comparability of interventions. Furthermore, Buljac-Samardzic et al. (2010) found that no studies evaluated the exact same intervention. This systematic review aims to overcome these interpretative difficulties by identifying what the observed teamwork and organizational factors were that affected clinical outcome, rather than the impact of the intervention itself on effectiveness.

1.4 Summary

Previous systematic reviews have broadly focused on the aspects of a team that impact team effectiveness in primary and secondary care, however they only included a small minority of studies from the mental health population (e.g. Lemieux-Charles & McGuire, 2006; Schofield & Amodeo, 1999; Xyrichis & Lowton, 2008). These reviews found that teams studies usually examined processes or outcomes but not the linkages between (Schofield & Amodeo, 1999) or did not give a clinical indication of team effectiveness outcome and instead provided an organisational or staff-related outcome (e.g. Xyrichis & Lowton, 2008) . More recently there has been an increase in intervention studies in healthcare. The most recent systematic reviews on intervention studies (e.g. Buljac-Samardzic et al., 2010; McCulloch et al., 2011) have also focused on healthcare as a whole, and mostly found studies from primary or acute (hospital) care. These reviews also experienced difficulties in

synthesising the studies due to different assessment measures and differences in effectiveness outcome being measured.

Numerous healthcare reforms have taken place in the 21st century (Bolton, 2004) and this review aims to contemporise the understanding of effective healthcare teams. This may have important implications when implementing evidence-based practice. Research often assumes that the development of psychological interventions will be disseminated automatically once efficacy is ascertained. However efficacious treatments are rarely adopted or successfully implemented in community settings (Proctor et al., 2009). This suggests that less is known about implementing effectiveness services in community based service organizations than about treatment efficacy and evidence based practices.

This literature reviews aims to use the ITEM model to categorise team effectiveness findings in the mental health care literature. Specifically this review will identify studies that have considered the effect of team input or processes by measuring clinical outcome. This study define clinical outcome as 1) direct patient-related outcomes (subjective or objective) or 2) staff- related outcomes that are in relation to their clinical work with patients (e.g. prescribing behaviour). The two key questions this review aims to answer are:

1. What teamwork factors improve service effectiveness for mental health care provision?

2. To what extent is service effectiveness determined by objective or subjective clinical outcomes that are related to patient care.

2 METHODOLOGY

An important aspect of determining the validity of a literature review is its ability to be replicated and therefore details of the literature search have been made explicit (Cooper, 1998).

2.1 Data sources

A systematic literature search was conducted using MEDLINE, Web of Science, PsychINFO, and Cochrane electronic databases. PsychINFO focuses primarily on psychological literature and related disciplines. MEDLINE covers medicine, nursing, dentistry, the health care system and preclinical sciences. The results were restricted to English articles with abstracts published in peer-reviewed journals (only available on PsychINFO). To obtain a comprehensive understanding of the current state of published research in mental healthcare team effectiveness, no search limit was placed date of publication.

2.2 Search strategy

Many different terms are used to describe the collaborative work between professionals such as ‘multiprofessional’, ‘interdisciplinary’ and ‘multi- disciplinary’, all of which are often used interchangeably in the literature (Leathard, 2003; Payne, 2000). This inconsistency hinders its usefulness as a variable in studies (Xyrichis & Lowton, 2008) and therefore, due to its paucity, study selection was not based on their definition of a team.

The MEDLINE version of the detailed strategy was used as the basis for the other search strategies. Search terms used to capture teamwork factors followed the guidance of previous literature reviews and therefore including 'team work', 'team climate', 'team culture, 'team functioning' and 'team characteristics'. Studies have focused on team working in the context of organizational effectiveness and therefore 'organisational' was also included for this subject group. Terms for service effectiveness included 'clinical outcome', 'patient outcome', 'task outcome', 'patient care', 'team performance' and 'team effectiveness'. To restrict studies to the mental health population terms used were 'mental health' and 'psychiatric'. The terms for each of these three subject groups were combined using the OR Boolean operator, and the four terms were then sequentially combined with the AND operator.

2.2.1 Inclusion and exclusion criteria

Combining these four databases yielded an initial search of 239 journals. A predefined set of exclusion and inclusion criteria was used to identify as relevant and articles (see Figure 2 for diagrammatic search procedures). Included studies were those that linked team or organisational input variables (e.g. supervision level, training environment, autonomy, task clarity) or team process variables (e.g. communication, collaboration, decision- making) with patient care-related outcome. The outcome measures included staff-rated or patient self-report measures on objective functional status (e.g. quality of life, recovery rate, physical and mental health), or subjective perception of treatment and wellbeing (e.g. treatment environment). Studies that considered staff-related outcome that relate to patient care were also included (e.g. difference in seclusion rate, frequency of clinical interactions or staff's subjective understanding of patients' needs). All studies

included were cross-sectional with the exception of some intervention studies that were longitudinal and compared pre- and post- intervention findings. Only interventions studies specifically designed to improve team effectiveness were included, provided that their outcome measures were also related to patient care.

Exclusion criteria were articles not relevant with the topic under investigation (e.g. non- mental health population), not written in English and non-research articles (e.g. book reviews, dissertation etc.). Articles were further excluded if they did not make a comparison with a control group or within group over time, and if they did not link team processes to effectiveness outcome. As a consequence a number of high quality qualitative studies and single-case narrative studies on team functioning were excluded from this review. This narrowed the search to 64 articles. After a preliminary reading of the full papers, four additional articles were identified from the reference list of relevant articles, and the final 22 articles were identified and included in the review.

2.3 Quality ratings of the studies included in the review

Critical appraisal tools provide an analytical framework for the evaluation of the quality and utility of research. The QualSyst (Kmet, Lee, & Cook, 2004) provides quality criteria for quantitative (14 items) and for qualitative (10 items) research articles (see appendix C). For this review, only the quantitative criteria were required. The 14 checklist items predominantly focus on study design and analytic factors that contribute to the internal validity. The criteria also include assessing whether sample size was appropriate for the type of analysis used, and guidance from Cohen (1992) was used to determine this.

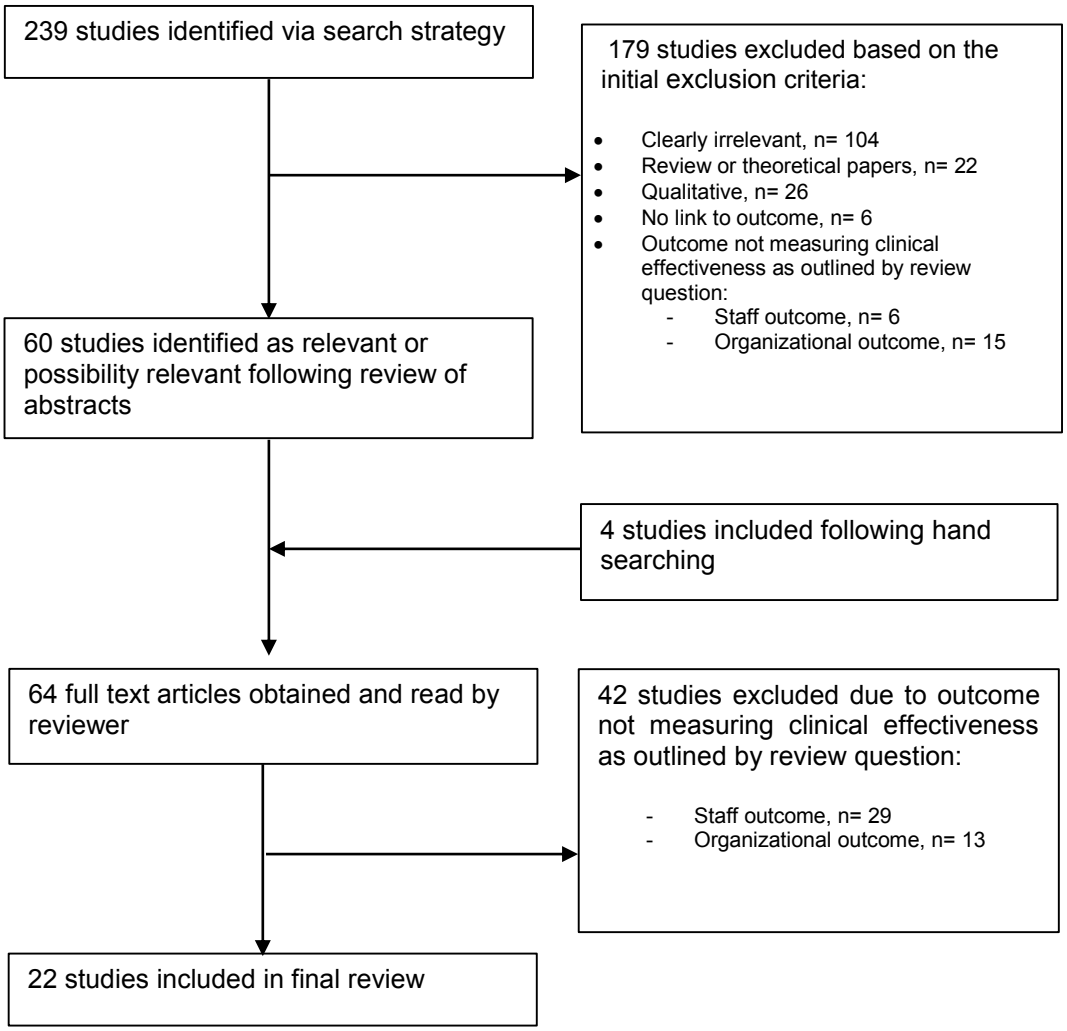

Figure 2: Diagram of search procedure

Each article was scored on the 14 criteria, with scores ranging from 0 to 2 (0 = No; 1 = Partial; 2 = Yes; and N/A = item not relevant to the article being rated). An overall quality score was calculated by summing the scores for the article, and dividing this by the possible total score (i.e., 28 - (number of ‘‘N/A’’ x2)), generating a score ranging from 0 to 1. Quality ratings of articles included ranged from 0.59 to 1

suggesting moderate to high quality of articles. All studies were included regardless of their quality scores (Table 1).

While useful for providing a standard measure of research quality, the QualSyst assessment tool has a number of limitations. The authors acknowledged the scoring of the scale is inherently prone to bias. In addition, inter-rater reliability appeared somewhat limited (a subsample of 10 studies scored by two reviewers) (Kmet et al., 2004). The authors further note that the checklist items represent the authors' perception of research quality and, given the absence of standard operational definitions of internal validity or a 'gold standard' measure (Katrak, Bialocerkowski, Massy-Westropp, Kumar, & Grimmer, 2004) with which to compare the QualSyst tool to, it is difficult to accurately assess the validity of the tool itself.

Table 1. Standard Quality Assessment for Quantitative Studies (Kmet, et al., 2004)

Study	QualSyst criteria item scores (0, 1, 2, n/a)														Quality
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	(0-1)
Alexander et al. (2005)	2	2	2	2	n/a	n/a	n/a	2	2	2	2	2	2	1	0.95
Brady et al. (2012)	2	2	n/a	2	n/a	n/a	n/a	2	0	2	1	1	2	1	0.68
Brugha et al. (2012)	2	2	2	2	n/a	n/a	n/a	1	2	1	2	2	2	1	0.86
Cassie and Cassie (2012)	2	2	1	2	n/a	n/a	n/a	2	2	2	2	2	2	2	0.95
Clossey and Rheinheimer	2	2	1	0	n/a	n/a	n/a	2	2	2	0	1	2	2	0.73
Glisson and Green (2006)	2	2	2	2	n/a	n/a	n/a	2	2	2	2	2	2	2	1
Glisson et al. (2010)	2	2	2	2	2	n/a	n/a	2	2	2	2	2	2	1	0.96
Glisson et al. (2013)	2	2	2	2	2	n/a	n/a	2	2	2	2	2	2	1	0.96
Holland et al. (1981)	2	2	1	1	n/a	n/a	n/a	2	2	1	2	2	1	1	0.77
Johnson (1981)	1	1	1	1	n/a	n/a	n/a	2	1	2	0	1	2	2	0.64
Manuel et al. (2013)	2	2	2	2	n/a	n/a	n/a	1	2	2	2	2	2	2	0.95
Moos and Moos (1998)	1	2	2	2	n/a	n/a	n/a	2	2	1	2	1	2	1	0.82
Morris et al. (2007)	2	2	2	2	n/a	n/a	n/a	1	2	2	2	2	2	2	0.95
O'Driscoll and Evans	2	2	1	2	n/a	n/a	n/a	2	1	1	1	1	2	2	0.77
Schoenwald et al. (2003)	2	2	2	2	n/a	n/a	n/a	2	2	2	2	2	2	2	1
Singh et al. (2006)	2	2	1	1	n/a	n/a	n/a	2	0	1	1	0	2	1	0.59
Stead et al. (2009)	2	2	2	1	n/a	n/a	n/a	2	1	2	0	0	2	2	0.73
Taxman et al. (2008)	2	2	2	2	n/a	n/a	n/a	2	2	1	2	1	2	2	0.91
Timko and Moos (1998)	2	2	2	2	n/a	n/a	n/a	1	2	2	1	2	2	1	0.86
Versteeg et al. (2012)	2	2	1	2	n/a	n/a	n/a	2	2	2	2	2	2	2	0.95
Wright (1997)	2	1	2	2	n/a	n/a	n/a	1	1	1	0	2	2	2	0.73
Wright et al. (2003)	2	1	1	2	n/a	n/a	n/a	2	2	1	2	2	2	1	0.82

[a] **Quality score calculated by summing scores of relevant items and then dividing this number by the total possible (i.e., 28 - (number ''N/A'' x2)).**

3 RESULTS

Organisation of the findings in the final studies was guided by the ITEM model and Table 2 summarises the final 22 studies according to the team factor variable being examined in the study (i.e. input and processes variables) and the effectiveness outcome. Some studies were either unclear about which team factor variable their measurements were evaluating, or appeared to be describing factors that belonged to a different variable than what they claimed. For example in a study by Morris, Bloom, and Kang (2007), norms, value, cohesion and morale are described as a measure of organizational context, however the ITEM model identifies these factors as belonging to the process variable (psychosocial traits). Since the ITEM model was applied to the final studies in a post hoc fashion, the reviewer had to use their own judgement about what team factors the measurements used in the study were capturing. The majority of the studies in this review used objective effectiveness measures, with approximately equal number of studies using patient- related or staff related objective measures. For a summary on the types of effectiveness outcome used see Table 3.

3.1 Team input factors

Half of the studies in this review measured the influence of team input factors, eight of which used objective patient related measures. The main input factors that were examined were organisational context (eight studies).

Table 2: Summary of the final 22 studies

		Team factor variable		Team effectiveness variable	
Author &country	**Design & population**	**Input factors**	**Process factors**	**Patient outcomes**	**Staff- related outcomes**
Alexander et al. (2005) USA	Longitudinal Veteran with serious mental illness including psychosis	Team composition: size	Participation in decision making	ADL status	X
Brady, O'Connor, Burgermeister, and Hanson (2012) USA	Longitudinal Adult psychiatric inpatient unit	X	Psychosocial traits (introduction of mindfulness)	- Patient satisfaction survey - Patient safety events: patient aggression & patient falls	Patient safety events: medical errors.
Brugha et al. (2012) USA	Cross-sectional Assertive Outreach Teams	-Task features: Team type and work cycle -Team composition	X	Hospitalisation rates	Likelihood of patients received psychological interventions
Cassie and Cassie (2012) USA	Cross-sectional Residential nursing home	Organisational context (Organizational Social Context Scale; Glisson et al., 2008)	X	Depressive symptoms	X
Clossey and Rheinheimer (2014) USA	Cross-sectional Adult mental health outpatient services	Organisational context: (Organizational Social Context Scale; Glisson et al., 2008)	X	Patient perception of staff support for recovery	X
Glisson and Green (2006) USA	Cross-sectional Children referred to child welfare and juvenile justice system	Organisational context: Organizational Climate Survey (OCS) developed by Glisson and Hemmelgarn (1998)	X	X	Receiving of mental health care
Glisson et al. (2010) USA	Longitudinal with four treatment groups (MST, ARC, MST+ARC, control) Multisystemic Therapy (MST) delivered to young people and family	Availability, Responsiveness and Continuity (ARC) organisational intervention study		Youth behavioural problems: child behavior checklist (CBCL)	X

Author	Population	Team factor variable		Team effectiveness variable	
		Input factors	Process factors	Patient outcomes	Staff- related outcomes
Glisson, Hemmelgarn, Green, and Williams (2013) USA	Cross-sectional with control group Community mental health teams for adolescents	ARC intervention study		Youth Psychosocial functioning: Shortform Assessment for Children (SAC)	X
Holland, Konick, Buffman, Smith, and Petcher USA	Cross-sectional Adult mental health ward	Participation in decision making: Participation in treatment scale (developed by the same authors)	X	Patient functioning: Community Adjustment Patient Scale of the Discharge Readiness Inventory	X
Johnson (1981) Canada	Cross-sectional Residential treatment centre for adolescents	X	Psychosocial traits: Cohesion Index (Seashore, 1954)	X	Staff perception of treatment environment: Community Orientated Programs Environment Scale (COPES; Moos, 1974)
Manuel et al. (2013) USA	Cross-sectional Assertive Outreach Teams	Organisational Context: OCS (Glisson & James, 2002)	X	X	Use of intrusive intervention strategies.
Moos and Moos (1998) USA	Cross-sectional Inpatient substance abuse treatment programmes for Veterans	Task features: Role clarity measured by the Work Environment Scale.	X	X	Staff perception of treatment environment (COPES; Moos, 1974)
Morris et al. (2007) USA	Longitudinal Adult community mental health teams	X	Psychosocial traits: Norms, value, cohesion and morale- subscales adapted from Shortell et al. (1995)	Quality of Life `Index Patient perception of physical and mental health	X
Schoenwald, Sheidow, Letourneau, and Liao (2003) USA	Longitudinal MST delivered to young people and family	Organisational context: Psychological Climate Questionnaire (PCQ)	X	Behavioural problems	Discharge decisions

Author	Population	Team factor variable		Team effectiveness variable	
		Input factors	Process factors	Patient outcomes	Staff- related outcomes
Singh, Singh, Sabaawi, Myers, and Wahler (2006) USA	Longitudinal Adult inpatient psychiatric hospital	Mindfulness mentoring intervention targeting task features (e.g. the conduct of meetings, assessments, synthesis of assessments)	X	Patient attendance at scheduled therapeutic groups and individual sessions	X
Stead et al. (2009) Australia	Longitudinal Adult mental health wards	Intervention study: TeamSTEPPS		X	Seclusion rate Frequency of event reporting
Taxman, Cropsey, Melnick, and Perdoni (2008) USA	Cross-sectional Offenders with co-occurring mental health and substance abuse disorders	Organisational Context: measuring: -evidence based practice - policy responsibility -innovation scale adapted from Scott and Bruce (1994)	X	X	Level of service provision
Timko and Moos (1998) USA	Cross-sectional Patients in psychiatric and substance abuse programmes	Team Composition: discipline	Team process: Communication	Patient perception of treatment environment (COPES; Moos, 1974)	Staff perception of treatment environment (COPES; Moos, 1974)
Versteeg, Laurant, Franx, Jacobs, and Wensing (2012) Netherlands	Cross-sectional Patients with dual diagnosis (schizophrenia,	X	Team process: Communication Leadership	Patient treatment outcomes	Staff monitoring, and screening/assessment
Wright (1997) USA	Cross-sectional Adult inpatient psychiatric hospital	Organisational Context: measure adapted from Community Program Philosophy Scale	X	X	Staff members' subjective understanding of mental health patients' needs
Wright, Linde, Rau, Gayman, and Viggiano (2003) USA	Cross-sectional Mental health patients in emergency department	-Organisational Context: measure adapted from OCS (Glisson & Hemmelgarn, 1998) -Task features: role clarity	X	X	-Frequency of clinical interactions with patients and their families. -Staff members' subjective understanding of mental health patients' needs

Table 3. Summary of the type of effectiveness outcomes used

	Patient outcomes		**Staff- related outcomes**	
	Objective	Subjective	Objective	Subjective
Alexander et al. (2005)	+	-	-	-
Brady et al. (2012)	+	+	+	-
Brugha et al. (2012)	+	-	+	-
Cassie and Cassie (2012)	+	-	-	-
Clossey and Rheinheimer (2014)	-	+	-	-
Glisson and Green (2006)	-	-	+	-
Glisson et al. (2010)	+	-	-	-
Glisson et al. (2013)	+	-	-	-
Holland et al.	+	-	-	-
Johnson (1981)	+	-	+	+
Manuel et al. (2013)	-	-	+	-
Moos and Moos (1998)	-	-	-	+
Morris et al. (2007)	+	+	-	-
O'Driscoll and Evans (1988)	-	+	-	-
Schoenwald et al. (2003)	+	-	+	-
Singh et al. (2006)	+	-	-	-
Stead et al. (2009)	-	-	++	-
Taxman et al. (2008)	-	-	+	-
Timko and Moos (1998)	-	+	-	+
Versteeg et al. (2012)	-	-	++	-
Wright (1997)	-	-	-	+
Wright et al. (2003)	-	-	++	-
Total	**11**	**5**	**10**	**4**

3.1.1 Organisational Context

The organisational social context can include the organisation's culture and climate (Glisson et al., 2013) and the literature differentiates between the two. Measures of organizational climate assess the individual's perception of the work environment and its psychological impact. Culture is defined as shared beliefs, expectations and values amongst employees that determine how responsibilities are accomplished. By this definition culture also captures aspects of team-psychosocial traits, since shared expectations and norms can guide behaviour in the organisation e.g. rigid bureaucratic

rules. Depending on what the items were on the scales or subscales used, the reviewer used their own speculation as to whether a study was investigating organisational context or psychosocial traits.

Two of the eight studies (Cassie & Cassie, 2012; Clossey & Rheinheimer, 2014) measured the organizational context using the Organizational Social Context scale (Glisson et al., 2008). The scale described proficient cultures as characterised by work environments where staffs are expected to be competent and responsive to residents' needs. In a study examining depressive symptoms among nursing home residents, highly proficient cultures were more likely to admit residents with more depressive symptoms (Cassie & Cassie, 2012). However overtime, the residents experienced a decrease in depressive symptoms, whereas those in less proficient cultures experience an increase in depressive symptoms. The study also found that in cultures with higher levels of resistance, characterized by environments where employees are apathetic or resistant to new ways of practice, there were also higher rates of depressive symptoms in the residents.

Similarly, Clossey and Rheinheimer (2014) found that mental health recovery services with more constructive cultures (defined as high in proficiency, engagement, functionality, and lower in rigidity, resistance and stress) had consumers who indicated higher perception of support for their recovery. However this was not ascertained by any objective recovery outcome measures. Interestingly adherence to the recovery programme orientation had little effect on patient perception of support for recovery. The quality of the study was however affect by potential selection bias in participation selection, and insufficient information on participant demographics and control of confound.

Schoenwald et al. (2003) similarly found that a climate that offers more supportive and satisfying work environment may compensate in some way for the effects of low adherence to multi systemic therapy on child outcomes. However, the study also found that positive features of an organizational context may have unexpected negative clinical outcomes. They reported that services where opportunities for advancement and reward are plentiful translated into poorer outcomes for children, when therapist adherence during a treatment episode is low. They found an increase in child behaviour problems post treatment, and increase in discharge decisions made by someone other than the therapist and family for reasons other than completion of treatment goals. This suggests that organizational practices regarding reward and advancement may not be informed by data regarding therapist fidelity to an empirically validated treatment or child outcomes.

Organizational context can also affect staff behaviour and attitude towards their clients. For example in a study looking at children referred to child welfare and juvenile justice systems, it was found that case managers in constructive organizational cultures, were more likely to ensure that children received the mental health care they needed (Glisson & Green, 2006). Staffs in these teams were being mutually supportive, developed their individual abilities, maintained positive interpersonal relationships, and were motivated to succeed. Thus the culture appeared to also influence team process factors.

With regards to staff attitude towards their patients, staff members' subjective understanding of mental health patients' needs was higher when they believed that the work environment was fair and equitable (Wright, 1997). The quality of this study was however affected by the lack of definition of the measures used and an unclear study design. In a related study, Wright et al. (2003) found that an organisational climate whereby supervisor expectations were reasonable, work environment was perceived as

fair, well organised and supportive, significantly influenced the extent to which professionals in an emergency department become involved with patients and their families. The authors infer that an organisation perceived as positive and supportive of staff's' own needs, are more likely to encourage empathetic responses from staff towards their patients. The organisational climate can affect staff behaviour, for example Manuel et al. (2013) reported that an organizational climate whereby staff were demoralised and had stigmatising beliefs about mental illness, were more likely to use intrusive intervention strategies in assertive outreach teams. However merely changing the work environment to be "equitable" is unlikely to change staff's stigmatising beliefs, as the negative impact of stigma on patient is well established in the literature (Manuel et al., 2013).

The capacity for service provision can also be affected by the organizational context as identified in a study whereby correctional agencies that offered services for offenders with co-occurring mental health and substance abuse disorders were compared (Taxman et al., 2008). Facilities with greater service provision for this population tended to offer more medical, psychosocial and substance abuse treatment. The service provision capacity seemed to be a result of adopting evidence-based practices, having more policy responsibilities, openness to innovation and clarity of future goals.

3.1.2 Task features

Three studies in this review assessed the impact of task features on effectiveness outcome, all of which had high QualSyst rating (0.82 to 0.86). In Moos and Moos (1998) study on substance abuse treatment, programmes emphasising the clarity of staff duties as well as their commitment and control within the work setting, had treatment climates

that were more supportive and goal oriented for the patients. Patients furthermore reported being more active and satisfied, and they improved during treatment with better post discharge community adjustment. Conversely role ambiguity was associated with both lower levels of understanding and empathy, and uncertainty about how to respond to the clinical needs of the patients with the assumption that it is another team's or team member's responsibility (Wright et al., 2003).

An assertive outreach study found that factors that significantly predicted whether patients received psychological interventions such as CBT, were multidisciplinary team-working and teams not working out of hours, (Brugha et al., 2012). Furthermore clients of teams offering specialist skills had marginally significantly fewer nights in hospital. The authors did not however offer an explanation to these findings.

3.1.3 Team composition

Three studies considered team composition in their evaluation, all of which are of high quality (ranging from 0.86 to 0.95) and therefore the findings of which can be confidently asserted. This includes the assertive outreach study, which did a regression analysis of team composition (including proportion of social workers, caseload per team member, psychiatrist on the team) and found it had no association with hospitalization, even when all predictors were combined (Brugha et al., 2012). Team size was also found to be unrelated to improvements in Activities of Daily Living (ADL) over time in hospital ward for veterans (Alexander et al., 2005).

However in a study on substance abuse programmes, (Timko & Moos, 1998) found mixed results on the influence of team composition. Programmes with more alcohol and drug counsellors who were paraprofessional staff, had a programme with more active support, autonomy, personal expression, and practical orientation, according

patient and staff perception of the treatment environment. In contrast, programmes with more nursing assistants, had less active support, autonomy, and personal expression. The authors suggest that the inconsistency might be due the different treatment techniques by the two disciplines. However it may also be due to the perceived value of the different health care professionals' contribution to the team, as judged by both staff and patients.

3.2 Process factor

Nine studies in this review examined the impact of process factors, six of which used patient- related outcomes (five of these were objective measures).

3.2.1 Team processes

The studies in this review that examined the impact of team processes focused on participation in team decision-making, communication, leadership and general team functioning. Three studies evaluated the impact of team participation in decision-making. In Alexander et al. (2005) veteran study, teams with higher levels of participation were associated with improvements in patient's ADL overtime, whereas teams with lower levels of participation were associated with poorer ADLs over time. A similar finding was also reported in Holland et al. (1981) where higher level of patient functioning (determined by measure of discharge readiness and community adjustment) in a mental health ward was due to staff participation in decisions. The quality of this study was however poor due to potential participant selection bias, and insufficient information on demographic information and results. Favourable discharge circumstances were also

found to be related to participation in decision making in MST service (Schoenwald et al., 2003).

One high quality study examined staff communication and found that Quality Improvement (QI) teams with positive views about communication with regards to the innovation, showed better patient outcome in treatment of dual diagnosis, and greater staff monitoring of patients schizophrenia (Versteeg et al., 2012). The authors also examined the differences in leadership between teams. The successful QI teams with active leadership in the treatment of anxiety disorders showed improvement on all performance indicators (i.e. patient outcomes, monitoring, and screening/assessment). Active leadership in the treatment of dual diagnosis and schizophrenia also showed relatively better patient outcomes than teams with less active leadership.

The overall team functioning was the focus of the study by Singh et al. (2006). The authors particularly considered the conduct of staff in meetings, assessments, synthesis of assessments, patient involvement, use of patients' explanatory model, treatments objectives and tying up loose ends. The study introduced a mindfulness based mentoring intervention and found that it significantly enhanced team functioning, in the above mentioned areas, across all teams. Furthermore, the improvements sustained during the year long follow up in the absence of further intervention. Patient attendance at scheduled therapeutic groups and individual sessions also improved. The authors hypothesised that mindfulness mentoring created a sense of "teamness" whereby staff learnt how to share tasks between disciplines in a complementary rather than competitive manner. However there was no team level outcome to demonstrate that the increase in patient engagement was mediated by these changes. This was a generally poor study (QualSyst rating of 0.59) and its weakness includes small sample size, lack of

control for confounds and poor analytic method. Thus conclusions drawn from this study are tentative.

3.2.2 Team psychosocial traits

Team psychosocial traits appear to be under-researched in the healthcare effectiveness literature. It is likely that due to the intangible nature, its impact on effectiveness is harder to evaluate (Kozlowski & Ilgen, 2006). Only one study was explicitly measuring the impact of psychosocial traits (Johnson, 1981), whereas the other three studies appeared to be indirectly measuring this phenomenon. The quality of these studies according to their QualSyst rating is generally poor, ranging from 0.64 to 0.77, with the exception of Morris et al. (2007) (score of 0.95). thus the conclusions drawn from these studies are tentative.

Group cohesiveness, defined as attraction to the group or resistance to leaving, was measured in a residential treatment service (comprised of three cottage settings) for adolescents (Johnson, 1981). The findings indicate an increase in client autonomy in cohesive teams, whereas a lack of cohesion resulted to an increase in the need for structure, rule enforcement, staff control of patients, and higher seclusion hours (Johnson, 1981). Due to the unique treatment setting and small sample size (n= 34) this study lacks external validity, yet its finding of psychosocial traits as a significant variable in the quality of a treatment environment, is similar to that of O'Driscoll and Evans (1988). The scale the authors used (Ward Perception Questionnaire; Ellesworth, 1965) was not originally designed to measure psychosocial traits, however the reviewer judged that the scale captured this from overview of the scale items. The study found that staff motivation to work correlated with patients perceiving the ward as orientated towards learning practical skills. The study did not however use a more appropriate analysis for

its nested design (e.g. hierarchical linear modelling). Morris et al. (2007) also found that staff cohesion, morale, behavioural norms and values about the delivery of mental health services, were all linked to perceived improvements in patient's physical and mental health. However there was no link to improvements in objective quality of life measure in their study.

The final study to indirectly examine psychosocial traits in this review considered the effect of introducing mindfulness practice to staff in a mental health service (Brady et al., 2012). It reported a significant increase in mindfulness score and the ability to be present to the self (subscales including self-acceptance, sense of responsibility to care for oneself). There was also an increase in patient satisfaction and a significant decrease in number of patient safety events (e.g. patient aggression, patient falls and medical errors) three months post-intervention. The authors proposed that mindfulness practice could foster relationships with the self and other through presence, awareness and non-judgmental thinking. Whilst it is plausible that this influences cooperative behaviour, no explicit outcome measure was used in this study to demonstrate this nor did the authors examine the possibility of alternative explanations. The small scale of the study (n= 16) should also be noted.

3.3 Intervention studies

This reviewed identified two interventions that were designed for and implemented in mental health services. The Availability, Responsiveness and Continuity (ARC) organisational intervention was designed to help community-based service settings. The ARC intervention provides organisational component tools (e.g., teamwork, goal setting, and feedback) required for identifying and addressing service barriers in the

programme. It also aims to develop positive service provider attitudes and behaviours (e.g., flexibility, openness to change, commitment) that support service improvement efforts. In a study comparing community mental health teams for youths, outcomes were significantly better in the programmes that completed the 18-month ARC intervention. Furthermore youth outcomes were best in the programmes with the most improved organisational social contexts and team processes following the 18-month ARC intervention (Glisson et al., 2013). In a Multi Systemic Therapy (MST) study, total problem behaviours decreased significantly to non-clinical levels in the MST plus ARC condition by the six-month post-test, but remained at clinical levels for youth in the MST only, ARC only, and control conditions (Glisson et al., 2010). The quality rating of these two studies are high (0.96).

TeamSTEPPS (Team Strategies and Tools to Enhance Performance and Patient Safety) is an evidence-based teamwork training system involving four competency areas: leadership, situation monitoring, mutual support, and communication. TeamSTEPPS was implemented in a mental health facility in a longitudinal study (Stead et al., 2009). Post-implementation data demonstrated an observed change in the structure and process of the meetings that formalised meeting objectives, improved role clarity, and reduced unnecessary team membership. It was also observed that decisions were made in a framework of collaboration and teamwork, resulting in widespread ownership of discharge and follow-up plan. Clinical outcomes included a significant reduction in seclusion rates and significant improvement in frequency of event reporting. The study did however have a small staff sample size (pre= 23 and post= 34) and didn't control for confound variables, bringing the overall quality rating of the study to 0.73. The use of formal measures to capture the reported changes in team-working and collaboration

could have further supported their suggested impact of TeamSTEPPS on clinical outcomes.

4 DISCUSSION

This review aimed to update the understanding on what teamwork factors improve service effectiveness for mental health care provision. The review particularly focused on identifying studies that considered service effectiveness outcomes that were directly related to patient care. This included measures of patient functional status, patient satisfaction measures, or changes in how staff relate to their patients. The review excluded studies that only considered staff or service outcomes that were not associated with direct clinical care (e.g. job satisfaction, staff turnover). The 22 studies in this review were categorised according to the variable they were evaluating (i.e. input or process factors) and this was guided by the description of the ITEM (Lemieux-Charles & McGuire, 2006). The ITEM provided a useful framework for understanding the multiple dimensions of health care teams as well as their processes and outcomes, by integrating concepts from the organizational studies and health care team effectiveness literatures. Three studies evaluated interventions that targeted both input and process factors. Figure 3 depicts the ITEM model in terms of which factors in the model have been empirically supported by the studies reviewed, with respect to the quality of the studies.

The majority of the studies in this review evaluated input factors (twelve studies) mainly organizational context, which is influenced by the social and policy context. The findings in this review suggest that, at least in services for adults and young offenders, organizational factors were associated with capacity for mental health service provision for this population (Taxman et al., 2008) and the likelihood of receiving adequate mental health care (Glisson & Green, 2006). Openness to innovation is one of the key influential factors that appeared to be related to this (Cassie & Cassie, 2012; Clossey & Rheinheimer, 2014; Taxman et al., 2008), assuming that this was what enabled adoption of evidence- based practices, another key factor in determining service provision

(Taxman et al., 2008). Conversely resistance to changing current practice appears to have a negative association with service outcome (Cassie & Cassie, 2012), and one can speculate that such team cultures are not adapting to new ways of working that are in line with evidence based research, which may account for their poor clinical outcome. It is unclear from the studies what prevents a team from being receptive to changing current practice, and it remains an area of concern in implementation research (Michie, Stralen, & West, 2011).

However it is not merely adhering to evidence based practice that mediates clinical effectiveness, indeed Schoenwald et al. (2003) found that an organization that cultivates a supportive culture buffers the negative influence of low treatment adherence in MST. Similar findings have also reported positive supportive relationships amongst colleagues to be associated with better service provision (Glisson & Green, 2006), client engagement (Wright et al., 2003), and responsiveness to patients' needs (Wright, 1997). Studies which considered 'task features' factors found that role clarity also improved understanding of patients' needs, frequency of patient interactions (Wright, 1997; Wright et al., 2003), seclusion rates, frequency of event reporting (Stead et al., 2009) and the extent to which patients perceived the service to be supportive and goal oriented (Moos & Moos, 1998). On the other hand a demoralizing environment along with stigmatising beliefs held by staff was related to the extent to which intrusive intervention strategies were used (Manuel et al., 2013). Recognition of staff efforts can minimise demoralisation, however advancement and reward are not always a positive feature of an organizational context. Services may either be too quick to reward clinicians, or their criteria for doing so may not regard the clinical outcomes achieved by clinicians (Schoenwald et al., 2003). Thus it is important that treatment adherence and clinical outcome are monitored, and taken into consideration when rewarding staff performance.

Rewarding staff is not the only way to motivate staff to achieve clinical excellence, as the studies in this review suggest it is also important for staff to feel like a valued team member. This may be what accounts for Timko and Moos (1998) findings, whereby differences in team composition appeared to be associated with patients' and staff's perception of the treatment climate. It is likely that the professional hierarchy is more eminent in some teams that others, whereby nursing assistants are typically excluded from the treatment team in alcohol and drug programme, which resulted in their poor morale and delivery of inadequate care. Drug counsellors, who are also paraprofessionals like nursing staff, are members of a credentialed discipline and are therefore often perceived as professional members of the staff team (Timko & Moos, 1998).

The findings of this review suggest that a supportive organisation that fosters team morale was also positively associated with team process and psychosocial traits. The influence of stable psychosocial traits is an under-researched area, since it emerges as a product of team processes (and reciprocally influence them) and are therefore harder to study. Positive team norms and values, motivation, and cohesion were associated were linked to subjective team effectiveness, as perceived by patients. With the exception of Johnson (1981), these studies were not explicitly measuring traits, however the reviewer speculated from examining the items that the measures these studies used were capturing psychosocial traits. The traits that were not identified in this review were problem-solving capacity and efficacy. A previous literature review (Lemieux-Charles & McGuire, 2006) also found that these traits were rarely examined in the general healthcare literature, along with a culture of team learning. Furthermore, few studies provided insights into how to create the conditions necessary for the positive psychosocial traits to become established (Lemieux-Charles & McGuire, 2006).

The team processes identified in this review that were positively associated with objective effectiveness outcome were participation in decision- making (Alexander et al., 2005; Holland et al., 1981; Schoenwald et al., 2003), communication (Versteeg et al., 2012) and active leadership (Versteeg et al., 2012). One study in this review evaluated the impact of mindfulness based stress reduction (MSBR) on the team, and although the study did not operationalize what team variable it was specifically targeting, the authors purported that increase in mindfulness observed created a sense of non-judgemental thinking, which resulted in a significant decrease in patient safety events (Brady et al., 2012). It can be hypothesised that the mindfulness practice encouraged a sense of what Edmondson (1999) describes as 'psychological safety', whereby staff perceive their environment as interpersonally non-threatening and allows them to have a 'dialogue' with each other in a non-defensive and curious way (Senge, 2006). Thus if staff are able to share their concerns with the team without fearing negative interpersonal repercussions and instead are met with support and encouragement, their self-efficacy is enhanced (Wood & Bandura, 1989), which may be accountable for the clinical outcomes in the Brady et al. (2012) study. The influence of colleagues or team support reported in the other studies (e.g. Glisson & Green, 2006; Manuel et al., 2013; Schoenwald et al., 2003; Wright, 1997; Wright et al., 2003) may also be due to a by-product of psychological safety, however this is merely the reviewer's conjecture.

The findings of this review should be considered in light of some of the methodological limitations of the studies included as rated by the QualSyst rating tool (Table 1). A major limitation for the majority of the studies included in the review is that of sampling. Although several different subject populations were sampled, many of the studies either used an opportunistic sample or recruited participants from a unique setting that compromised external validity (e.g. Johnson, 1981). The generalizability of

the results is therefore possibly lower than would be hoped when one considers these potential biases. It is also noteworthy that some of the studies had small sample sizes (N < 40), which again compromises the generalizability of the results (e.g. Brady et al., 2012; Johnson, 1981; Stead et al., 2009). For other studies, the sample size affected the adequacy of power to conduct more appropriate analysis. For example a more fitting analysis for the nested design of O'Driscoll and Evans (1988) study would have been hierarchical linear modelling.

It also transpired that there are gaps in the literature and certain team factors are under-researched in mental health settings. One reason for this may be a lack of rigorous conceptualization of team dimensions, processes, traits and outcomes, which are needed in all health care team effectiveness research (Lemieux-Charles & McGuire, 2006). This gave rise to one of the limitations of this literature review whereby the post hoc use of the ITEM to categorise studies that did not clearly operationalise what variable they were measuring, meant they were subjected to reviewer's conjecture (e.g. Brugha et al., 2012; Manuel et al., 2013; Morris et al., 2007; Timko & Moos, 1998). There are other limitations to take into account when interpreting the results of this literature review. By not including books or grey literature, relevant publications may have been missed. The search terms used were informed by previous literature reviews and although this was thorough, due to the inconsistencies in definitions used, some papers using keywords outside of our search strategy may have been missed.

The challenges of organising mental healthcare in the modern United Kingdom are considerable, with increasing demands for the variety of sources of health care available. The provision of free health care has become one of the most important issues in the national political agenda in the early part of the 21st century (Borrill et al., 2000). Parallel to this, the NHS has become increasingly characterised by large organisations,

repeated restructurings, and subject to a wide range of political and economic pressures (Bolton, 2004). A key challenge is how a better funded delivery of health care can be managed to provide an effective evidence based service, as measured by clinical outcomes. The findings of the review indicate that healthcare teams that have clear objectives, high levels of participation, effective communication, active leadership and a support for innovation, provide quality patient care. These team processes can be fostered by a climate that is supportive, conducive to taking interpersonal risks in team discussions, and where staffs feel valued. For example the AMBIT (Adolescent Mentalisation Based Integrative Treatment) model (Bevington et al., 2013) specifically targets this through its innovative use of mentalization theory as an organisational framework. Cultivation of these conditions may enable a team to be more adaptive to the changing NHS economic climate whereby staff are expected to do more with the same or fewer resources (Bowden, Smith, Parker, & Boxall, 2014). The next step in mental healthcare effectiveness research would be to ascertain what team factors facilitate or inhibit the adoption and implementation of evidence based practices.

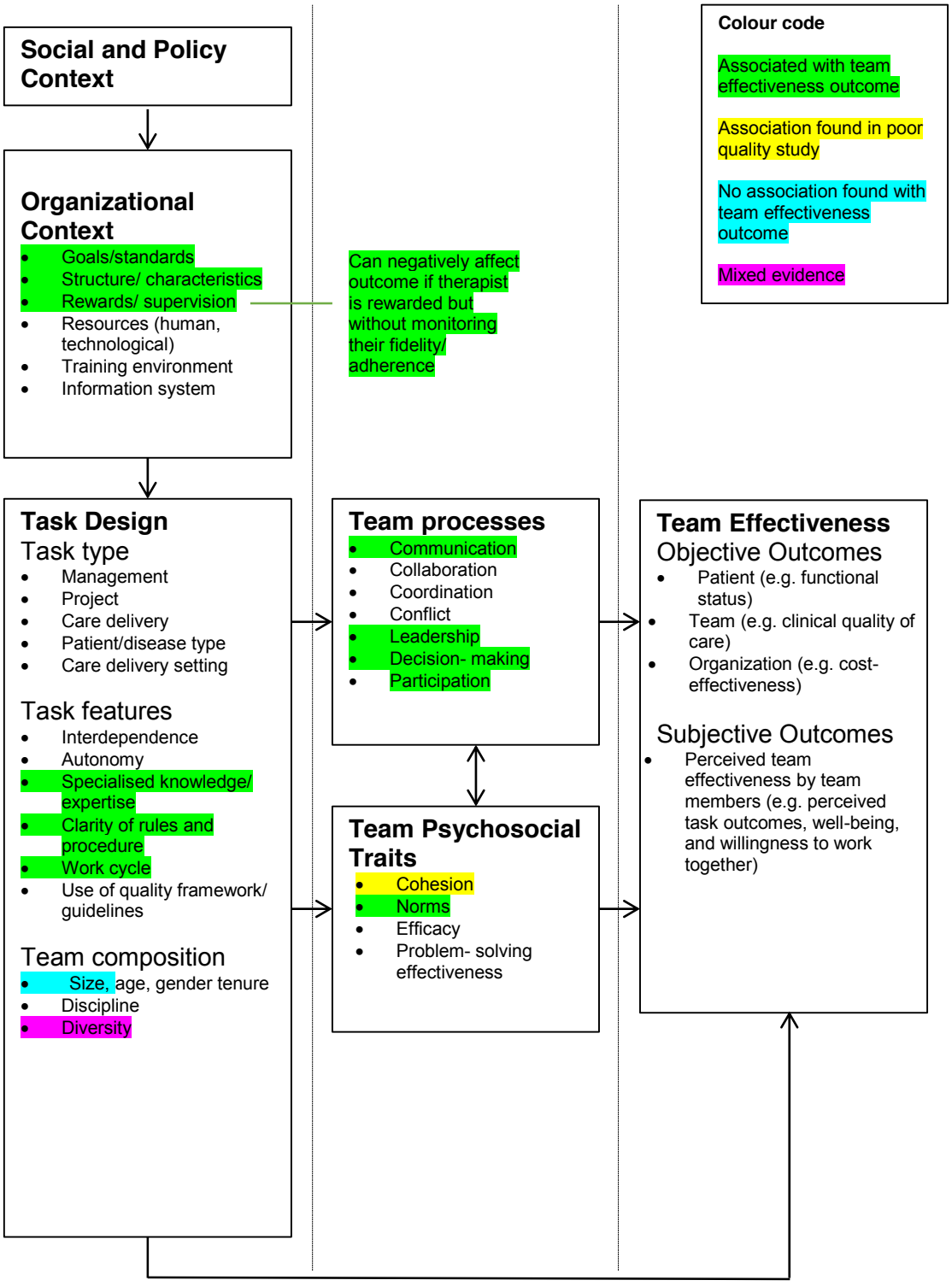

Figure 3: ITEM model- colour coded to illustrate empirically supported factors of the model.

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Part 2:

Mentalization theory as an organisational framework:

An evaluation of the AMBIT (Adolescent Mentalization-Based Integrative Treatment) approach

ABSTRACT

Aim: The use of mentalization as an organisational framework by AMBIT (Adolescent Mentalization Based Integrative Treatment) was hypothesised to influence team effectiveness, with staff being approach-oriented towards professional anxiety and having greater reflective capacity, compared to other mental health services working with adolescents.

Method: Staff working in AMBIT teams (n= 30) were compared with staff in other child and adolescent community- based teams (n =38), on their perceived team effectiveness, their coping responses to work-related psychological distress and their ability to gauge (reflective capacity) their colleague's distress. Reflective capacity was determined by inter-participant correlation between staff's own score on CRI and GHQ-12 with a colleague's predicted score on these measures.

Results: There was no difference in team effectiveness between AMBIT teams and other child and adolescent teams, after controlling for the effects of covariates. AMBIT teams were however more approach- oriented than non-AMBIT teams towards stress. There was a significant positive correlation between work related distress and avoidance coping amongst staff in non-AMBIT teams. There was a trend toward approach coping in AMBIT teams. An avoidance coping style significantly reduced reported participative safety in teams. There was no inter-participant association in either team types.

Discussion: Uncontained professional anxiety can make an individual vulnerable to maladaptive coping, which can compromise effective team-working particularly reducing the sense of participative safety in the team. Further research is needed to explore whether a mentalizing organisational framework can address this.

1 INTRODUCTION

1.1 Overview

Young people with multiple psychosocial problems are often referred to services that do not adequately meet their needs (Kessler et al., 2010). Recommendations for evidence- based practice for working with young people are frequently published following systematic reviews (for example, from the Cochrane collaboration and the UK National Institute for Health and Care Excellence (NICE). However, these guidelines are often either not adopted or implemented ineffectively in children and adolescent community services (Glisson, 2007; Proctor et al., 2009; Weisz & Gray, 2008).

There are some developments of evidence- based mental health services in the UK for young people (e.g. Goel & Darwish, 2008; Rani, Prosser, Worrall-Davies, Kiernan, & Hewson, 2009) yet there remains a paucity in the evidence for existing models of treatments of adolescents in the U.K (Bevington, Fuggle, Fonagy, Target, & Asen, 2013). Researchers often hope that the development of psychological interventions will be disseminated automatically once efficacy is ascertained. For example in the USA Multi Systemic Therapy (MST) is the most well developed model for assertive outreach. However, there have been reported transportability issues of MST treatment outside the USA (Henggeler, Pickrel, & Brondino, 1999). It is plausible that most past therapy research in meta-analytic reviews were not conducted under clinically representative conditions that encompassed other factors; hence their ineffectiveness in applied settings (Shadish et al., 2000). However some services are more successful than others whilst operating within the same financial and policy environment (Glisson, 2007). The disparity between care that is known to be effective and care that is delivered reflects a paucity of evidence

about implementation, and has become a focus in mental health implementation research.

The effectiveness of community-based mental health and other health care organizations are affected by many extrinsic factors other than merely the intervention they provide including policy, funding and collaborations with other services (Glisson, 2007). Intrinsic team- working factors can also compromise service effectiveness, for example how stress and anxiety is coped with by the individual and managed at an organizational and team level (Bleiberg, 2003; Bowden et al., 2014). Healthcare services are not always equipped to manage the strength of these emotions (Hoggett, 2010; Theodosius, 2008), and unmanageable stress and anxiety can lead to burnout, depersonalisation of the provider-patient relationship, and demoralisation of the work (Felton, 1998). This is a major concern at a time when organisational demands are excessive, providers are challenged with high caseloads of clients, and are faced with the frustration of not meeting their needs (Feldman, 2001; Mechanic, 2007; Sederer & Mirin, 1994). Furthermore it can lead to a rigid social defence involving avoidance coping that can inhibit task accomplishment (Hoggett, 2010; Krantz, 2010). Social defence refers to the impersonal elements of the organisation that exist separately from the staff in them, and that are utilized by staff to buttress individual defences through processes of projection and introjection (Menzies, 1960). Ultimately it can potentially threaten a team's capacity to deliver systematic and structured interventions.

Professional anxiety is however inherent (and necessary) to the job when working with a high-risk clinical group such as adolescents with multiple mental health problems and vulnerabilities (Bevington et al., 2013). These adolescents' challenging behaviours hamper the development of trusting relationship and can

challenge the staff in engaging and empathising with the adolescents' difficulties and underlying attachment needs (Kobak & Kerig, 2015). While the staff's anxiety can put them at risk of engaging in counterproductive reactions that undermine efforts to engage the adolescent, it may also be meaningful transference or countertransference information that can guide the clinical work (Bateman & Fonagy, 2011). Thus it is not merely a case of reducing staff anxiety that will help them manage, but increasing their capacity to internally process difficult thoughts and feelings that arise as a consequence of such work related stress. This process is referred to as "containment" and is assumed to help the person modulate the way they express their feelings and thereby helps them feel robust, secure and resourceful (Bion, 1962). Such capacity (as opposed to merely offloading) may increase the clinician's resilience and sense of self-efficacy, and consequently prevents the use of unhelpful coping responses that may compromise best practice. The ability to contain anxiety (either for oneself or for a colleague) is argued by some theorists to be heavily reliant on mentalization skills (Bateman & Fonagy, 2011; Fonagy, Gergely, Jurist, & Target, 2002)

1.2 Mentalization

Mentalization is a form of social cognition, whereby imaginative mental activity enables us to perceive and interpret human behaviour in terms of intentional mental states e.g. needs, desires, feelings, beliefs, goals, purposes and reasons (Bateman & Fonagy, 2011). This applies both to actions observed in others and ideas and feelings about one's own behaviour (Fonagy, 1998). When we sense that the other person has our mind in their mind, we feel affirmed and validated, and it enables us to manage distressing feelings such as frustration, sadness and anxiety,

without resorting to automatic fight-or-flight responses, or efforts to cope that are ultimately self-destructive or maladaptive (Bleiberg, 2003). Thus mentalizing is argued as key to self-regulation and preserving flexibility and choice in how we respond to psychological stress. Reflective functioning is the operationalised referent to mentalizing capacity i.e. the individual's attuned reading of the other's internal state (Allen, Fonagy, & Bateman, 2008). Mentalizing one's self and others frequently occurs within the individual without conscious effort (implicit mentalizing). However it is easily disrupted by anxiety and heightened arousal and can trigger a person to fall into a non-mentalizing state whereby behaviours of oneself and others may be understood in more restricted and defensive ways, which may involve criticism, hostility and blaming (Fuggle et al., 2014). Uncontained anxiety can also result in avoidant coping (Moos, 1993). The recognition and interruption of these non-mentalizing states, through explicit mentalizing, is central to mentalization-based work.

Mentalization is not a newly discovered phenomenon but was popularized in the last 24 years by Fonagy and collaborators (Bateman & Fonagy, 2008b; Fonagy et al., 2002; Fonagy, Steele, Moran, Steele, & Higgitt, 1991) and its concept is applicable and crucial to delivering any form of therapy effectively (Allen et al., 2008). Mentalization- based treatment (MBT) is a well evidenced intervention for individuals with a borderline personality disorder (Bateman & Fonagy, 2011) and adolescents who self-harm (Rossouw & Fonagy, 2012). Its development has also extended to mentalization-based treatment for adolescent and their families (MBT-F: Asen & Fonagy, 2012, 2014; Fearon, 2006). The aim of the various forms of MBT is to reduce the negative impact of misunderstandings, and within the individual,

increase more effective reflective capacity and management of emotional arousal (Sharp & Fonagy, 2008).

1.3 Mentalization as an organizational framework: The AMBIT Approach

Adolescent Mentalization Based Integrative Treatment (AMBIT: Bevington et al., 2013) is a novel multimodal approach that was developed in response to the need for a well-structured, evidence-based intervention, as there is at present insufficient evidence on the effectiveness of current intervention models directed to this client group (Bevington et al., 2013). AMBIT adopts a teamwork approach to help young people stay integrated with their family and community, while addressing their psychological problems. Its innovative application of mentalization as an organisational framework flexibly integrates practices derived from different evidence-based modalities, which can be adapted for local implementation. AMBIT also manualises collaborative strategy and the model focuses on all three forms of relationships within the system, (client-worker, worker-worker, and worker-agency) using the theoretical underpinnings of mentalization (Bevington et al., 2013; Fuggle et al., 2014).

The primary aim of AMBIT is to increase the team's capacity to provide on-going support so that a keyworker working with an adolescent service-user can maintain a mentalizing stance and disengage from counterproductive reactions that undermine therapeutic efforts. One way this is achieved is through the mechanism of containment by shifting the structure from the traditional "team around the child" to a "team around the worker" approach. The keyworker is well connected to the wider team and contained by them through the practice of "explicitly thinking together". This is actively employed in peer and team supervision, making it a team

task to support their colleagues' capacity to mentalize. Mentalizing is not merely applied to the team worker's relationship with the young person but with all aspect of the practice. The four domains of core practice (depicted in Figure 1) are mentalizing the client ('active planning'), mentalizing the worker ('supervisory structure'), mentalizing the wider system ('addressing disintegration') and team learning ('wiki-manualisation': Bevington et al., 2013; Fuggle et al., 2014).

AMBIT's innovative way of fostering team support can also facilitate what Edmondson (1999) describes as 'psychological safety', whereby staff perceive their environment as interpersonally non-threatening and allows them to have a 'dialogue' with each other in a non-defensive and curious way (Senge, 2006). This was found to be one of the key factors that were associated with team effectiveness in the mental health care literature (Rudhra, 2015). Thus if staff are able to share their concerns to the team without fearing negative interpersonal repercussions and instead are met with support and encouragement, their self-efficacy is enhanced (Wood & Bandura, 1989). Self-efficacy is the perception of one's capability to performance a particular task. It influences the individual's appraisal of the problem (i.e. challenge versus threat), their coping mechanism, and the regulation of negative emotions (Bandura & Schunk, 1989). Individual self-efficacies can also affect collective team efficacies, and the influence of increased self-efficacy on improving individual and team performance has been demonstrated extensively in the organizational literature (Chiocchio, Kelloway, & Hobbs, 2015).

To summarise, the fundamental objective of the AMBIT approach is to retain hard to reach youths with low psychosocial functioning who have a poor relationship to help. AMBIT recognises that working with this client group also presents a challenge of sustaining cohesiveness and communication within the team, due to

difficulty in managing staff's' own emotions (Fuggle et al., 2014). Staff members are therefore in need of a coherent framework to guide their interventions and to help them manage the coercive pressure and emotional storms they encounter, as they become attachment figures for patients (Bleiberg, 2003). Mentalization theory has the potential to offer treatment teams a "glue" that holds together a range of therapeutic interventions in a coherent and integrated treatment model (Bleiberg, 2003), ultimately addressing the gap between evidence-based intervention and implementation. The developers of AMBIT (Bevington et al., 2013) propose that effective service delivery is mediated by team-level factors, whereby increasing staff's reflective capacity for their colleagues (and themselves) would enhance self-efficacy. Staff responding to challenges in their clinical work in adaptive ways could be evidence of this. How staff members cope with adversity is crucial as it is predicted to also impact on the team's overall performance (Krantz, 2010).

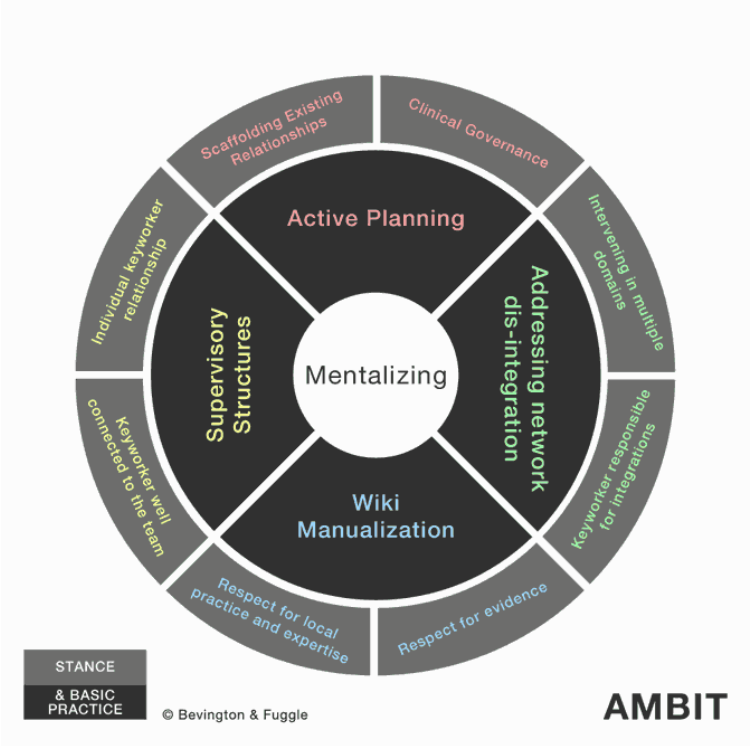

Figure 1. The AMBIT 'Wheel'- a schematic summary of the AMBIT approach

Past literature reviews indicate that relatively few team effectiveness research has been conducted in the mental health sector compared to other areas of healthcare (e.g. Lemieux-Charles & McGuire, 2006; Schofield & Amodeo, 1999; Xyrichis & Lowton, 2008), and even fewer researches considered the influence of intrinsic teamwork factors on service effectiveness (Xyrichis & Lowton, 2008). AMBIT is a relatively recent teamwork approach that is still developing its training programme, with more than 40 statutory and voluntary sector teams trained in the AMBIT approach across UK and Northern Ireland (Fuggle et al., 2014). These teams work with a variety of presentations including substance misuse, offending, severe mental illness, self- harm and those at risk of family breakdown or homelessness. Research demonstrating the clinical effectiveness of the AMBIT approach are starting to emerge, for example The Cambridge Adolescent Substance Use service (CASUS) found significant positive difference post treatment in psychological, physical and overall wellbeing (Fuggle et al., 2014). Whilst more clinical outcome studies are still underway (Fuggle et al., 2014), as of yet there have been no studies evaluating the team-level variables for AMBIT. This remains a critical area of research since the model hypothesises that it is its use of team-level interventions (e.g. active planning, supervisory structure, addressing disintegration and wiki-manualisation) that mediates service effectiveness. This research therefore aims to investigate the impact of the AMBIT approach on team effectiveness.

1.4 Aims and Hypothesis

This research's primary aim is to understand whether the use of mentalization theory as an organisational framework increases team effectiveness, due to staff's increased reflexive capacity and adaptive coping responses to the professional anxiety that could otherwise impede their work. Specifically, this study hypothesises that:

1) Staff working in AMBIT teams (with an explicit mentalization organisational framework) will have greater perceived team effectiveness than other teams (non-AMBIT teams) working with children and adolescents.

2) Staff working in AMBIT teams will have different coping responses from non-AMBIT teams in response to psychological stress related to their work.

3) Team effectiveness will be influenced by how staff cope with psychological stress at work.

4) Staff working in AMBIT-oriented teams will have a more accurate reflective capacity than staff working in non-AMBIT teams.

2 METHODOLOGY

2.1 Ethics

The University College London (UCL) ethics committee granted ethical approval (see Appendix B). Information sheets were provided to inform potential participants of the nature of the study, and written consent was gained prior to taking part in the study (see Appendix D and E for sample of information sheet and consent form for non-AMBIT and AMBIT teams respectively).

2.2 Design

The study utilised a cross-sectional design. This was a joint research project conducted with two other trainee clinical psychologists, Paul Gelston (2015) and Rashal Ullah (2015). AMBIT teams were approached and recruited collaboratively by all three researchers (See Appendix A for joint contribution statement). An opportunistic sample of 'non-AMBIT' teams was identified through the Anna Freud Centre on the AMBIT training waitlist. These teams were approached and recruited on the first of their four-day training, prior to them receiving any formal AMBIT training.

2.3 Participants

In total 68 participants were recruited in this study (30 in AMBIT teams and 38 in non-AMBIT teams). The majority of the participants in the study were female (79%). There were a mere three male staff recruited from AMBIT teams, compared to 11 males in the non-AMBIT teams, however a chi square test of independence

indicates that this difference is not significant ($\chi 2$ (1) = 3.681, p= .055). Team sizes varied between four to ten members per team, and composed of trained professionals (e.g. psychologists, therapist & psychiatrists), support workers and administration staff. The largest sample of profession was social workers (29%), mainly recruited from the non-AMBIT teams (22%). The second largest professions were clinical psychologists and therapists, which were of similar population in both team types, and nurses who were mostly in AMBIT teams (Table 1). The mean working hours per week in the sample was 33.04 (7.33), and the mean number of years participants had worked in the team was 2.83 (2.98). For participants working in the AMBIT teams, the mean years since receiving formal AMBIT training was 2.03 years (Table 2).

2.3.1 Recruitment

Five identified AMBIT trained teams that have an established metalization team framework, agreed to participate. Within all five teams, 88% of the staff consented to participate in the study and were recruited. In total 38 participants were recruited from eight non-AMBIT teams. Three separate training dates were attended by the researcher at the Anna Freud Centre for recruitment, each of which had an average of 20 participants attending. Thus approximately 63% of the staffs attending the training consented to the study and completed the questionnaires.

Table 1. Descriptive statistics of team composition profile in percentage

Table 2. Descriptive statistics of workforce characteristics

		AMBIT		Non-AMBIT		Total	
		n	%	n	%	N	%
Sex	F	27	39.7	27	39.7	54	79
	M	3	4.4	11	16.2	14	21
Professional role within the team	Clinical Psychologist/ Therapist	8	11.8	7	10.3	15	22
	Manager	3	4.4	6	8.8	9	13
	Psychiatrist	1	1.4	4	5.9	5	8
	Social worker	5	7.4	15	22	20	29
	Nurse	11	16.2	4	5.9	15	22
	Other	2	2.9	2	2.9	4	6

	Hours per week with team			Years working in the team		
	Mean (s.d)	Min	Max	Mean (s.d)	Min	Max
AMBIT teams	32.96 (7.23)	18.5	38	2.80 (2.56)	.08	11.6
NON-AMBIT teams	33.12 (7.49)	15	40	2.86 (3.31)	.08	14.8
Total	33.04 (7.33)	15	40	2.83 (2.98)	.1	14.8

2.3.2 Sample size

Power analysis for this study was informed by prior work by Ouwens et al. (2008) whereby the Team Climate Inventory (TCI: Anderson & West, 1998) subscale scores (rather than whole TCI score) were compared between multidisciplinary teams and mono-disciplinary nurse teams. The study found large effect sizes for the subscales that ranged from d= 0.85 to d=1.2. Assuming equal group sizes, power calculation was carried out using the "G*Power 3" computer program (Faul, Erdfelder, Lang, & Buchner, 2007) specifying α=5% and desired power = 80%. For a comparison between 2 groups, the required sample sizes for the subscales were estimated between 14- 23 participants per group.

2.4 Measures

2.4.1 Working characteristics

Work characteristic information was collected regarding team members' professional role in the team, working hours, how long they have worked for the team (years), years since AMBIT training (for AMBIT teams only) and the frequency of team meeting attendance (response categories: weekly, fortnightly, once a month or other: specify).

2.4.2 Team Climate Inventory

The Team Climate Inventory (TCI) is a measure of perceived team effectiveness and developed by Anderson and West (1998) (See Appendix F). The psychometric properties of the instrument have been shown to be acceptable in several studies across different samples and countries (Ouwens et al., 2008), with internal consistency ranging from good to high (Cronbach's α >.80) in many European studies (e.g. Agrell & Gustafson, 1994; Anderson & West, 1998; Kivimaki et al., 1997; Mathisen, Einarsen, Jorstad, & Brønnick, 2004; Ouwens et al., 2008). It has been used in research as an outcome measure of quality-improvement strategies in healthcare and to predict the success or failure of such a strategy (Ouwens et al., 2008). Participants were asked to rate their agreement on the TCI-items on a five-point scale (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree and 5 = strongly agree). Higher scores indicates a better or more desirable team climate (Anderson & West, 1998). The 44 questions in the TCI comprise four broad factors reflecting a team's shared perceptions of organizational policies, practices and procedures. These are team vision, participative safety, task

orientation and support for innovation. A total score is calculated by summing scores on the individual items.

The 'Team Vision' subscale (11 items) consists of four component parts- *clarity, visionary, nature attainability, and sharedness*. The 'Participative safety' subscale measures the individual's involvement in decision-making that is motivated and reinforced in an environment, which is perceived as interpersonally non-threatening. The 'Task Orientation' subscale describes a general commitment to excellence in task performance coupled with a climate, which supports the adoption of improvements to established policies, procedures, and methods. High task orientation is characterized by constructive controversy (problem-solving approach to decision-making developed by Johnson & Johnson, in 1979), and reflexivity (Tseng, Liu, & West, 2009). The 'Support for Innovation' subscale has eight items describing articulated support and enacted support. In addition to the four subscales the TCI also has a fifth scale within the 44- item scale that measures the extent of '*social desirability'* (six items, consisting of two subscales, social aspects and task aspects). High score on the social desirability scale (>22) indicates that all other answers concerning the TCI may have to be treated with caution as it is an indication of biased rating (Anderson & West, 1994).

2.4.3 General Health Questionnaire

Levels of worked-related psychological distress was measured using the General Health Questionnaire (GHQ- 12: Goldberg & Hillier, 1979), which has been shown to be reliable and valid measure of general psychiatric well- being (Lesage, Martens-Resende, Deschamps, & Berjot, 2011) (see Appendix G). It has been tested on a number of occupational groups including nurses and medical students

(Firth, 1986; Jones, Janmen, Payne, & Rick, 1987) and commonly used in occupational stress research using healthcare employees (e.g. Hardy, Shapiro, Haynes, & Rick, 1999; Lesage et al., 2011). Each of the 12 items on the scale assesses the severity of a psychological distress over the past three weeks. The positive items were corrected from 0 (always) to 3 (never) and the negative ones from 3 (always) to 0 (never), and a total score ranges from 0 to 36. A total score is calculated by summing the scores in each item, reverse scoring where necessary. A GHQ score of above 20 indicates sever problems with psychological distress (Goldberg & Williams, 1988).

2.4.4 Coping Responses Inventory

The Coping Responses Inventory (CRI: R. Moos, 1993) is a measure of eight different types of cognitive and behavioural coping responses to stressful life circumstances (see Appendix H). These responses fall into two categories; approach coping responses (i.e. logical analysis, positive reappraisal, social support, problem-solving), and avoidance coping responses (i.e. cognitive avoidance, resigned acceptance, alternative rewards, and emotional discharge). The CRI subscales are reported to have high internal consistency, to be moderately inter-correlated, and only minimally associated with age, education, and ethnicity (Moos, 1997). Participants were asked to rate each item specifically on the stress they've encountered at work (and not on their personal lives) over the last three weeks.

2.4.5 Reflective Capacity Assessment

Assessment of reflective capacity (i.e. participant's ability to attune to a colleague's state of mind) was determined by participant's ability to accurately

predict their colleague's psychological distress on the GHQ-12, and their coping responses on the CRI, in relation to a recent stressful period or situation at work.

2.5 Procedure

AMBIT teams were recruited from their workplace and non- AMBIT teams were recruited from the Anna Freud Centre, after they had completed the consent form. Participating team members were recruited in groups. Participants were firstly asked to pair up with a colleague in their team they felt they knew relatively well in the professional setting. The first questionnaire they were asked to complete was the TCI. This was followed by the GHQ-12 and the CRI whereby they were asked to consider questions in light of how they coped and responded to a stressful work-related problem or situation over the last three weeks. Participants were asked to not respond to the questions in relation to how they coped with or were affected by a personal situation outside of work. They were then asked to complete the GHQ-12 and CRI again, except on the second completion they were asked to predict what their paired colleague would have rated on the measures, i.e. predict how their colleague coped with and were affected by work- related stress over the last three weeks. Staffs were informed that confidentiality and anonymity would be maintained in accordance with the Data Protection Act 1998. They were also informed that the findings of this study would be made available to them upon request.

2.6 Statistical Analysis

Participants' scores on the TCI, CRI and GHQ were manually entered into IBM SPSS 21 database along with their work and team characteristic information.

All variables were checked for normality using histograms and the Kolmogorov-Smirnov (KS) test. Since parametric tests are also sensitive to outliers, three outliers were removed from the data (more than 2.5 standard deviations away from the mean). After removal of these outliers, the KS- test indicated that the participative safety subscale for the non- AMBIT group was not normally distributed (D= .16, p=. 02), nor was the task orientation subscale for the AMBIT group (D= .19, p=. 007). Given the liberal nature of the KS-test, p=. 01 was taken as the threshold. Square root transformation of the scale did not improve the skewness or the KS- test for normality. Therefore, due to the violation of the assumption of normality for parametric tests, non-parametric statistics were used when exploring these variables.

2.6.1 Hypothesis one

An analysis of covariance (ANCOVA) was used to investigate hypothesis one (staff working in AMBIT teams will have greater perceived team effectiveness than non-AMBIT teams). It is well established in the organisational literature that high team performance emerges from the interaction and working relationships within the team (Tuckman, 1965). Thus components of team effectiveness can be influenced by the length of staff's membership in the team (Pelled, 1996) and how frequently they interact. Therefore the covariates included in the analysis were (i) number of years working in the team and (ii) working hours per week, along with (iii) sex difference.

An essential feature of the current data is their nested structure whereby staffs are nested within the organizational context of the team. Hierarchical linear models analysis (HLM), designed specifically for cross-level inferences

(Raudenbush & Bryk, 2002), would be a more robust analysis for this data. A large sample size is required to conduct HLM for adequate power. This is especially true when detecting effects at level 1 e.g. differences in TCI scores (Woltman, Feldstain, MacKay, & Meredith, 2012). There are multiple factors involved in multilevel analysis and thus there are no meaningful rules of thumb with regards to estimating sample size (Kreft & De Leeuw, 1998). An attempt was made to recruitment the optimal number of participants, however there was still inadequate power to compute this analysis (See Appendix I for preliminary HLM analysis).

2.6.2 Hypothesis two

A correlation analysis was used to determine the relationship between GHQ-12 scores and the CRI subscale (i.e. approach and avoidance) scores, to test hypothesis two (staff working in AMBIT teams will have different coping responses from non-AMBIT teams in response to work-related psychological stress). There is growing use of cluster analytic techniques in studies of the coping responses in healthcare research (e.g. Hack & Degner, 1999, 2004; Nelson et al., 1994; Shapiro et al., 1997; Shapiro, Rodrigue, Boggs, & Robinson, 1994). Cluster analytic techniques are an exploratory data analysis tool for organising observed data into meaningful taxonomies and may provide an advantage over more traditional statistical approaches (i.e. regression analysis) in having potentially greater applied clinical relevance (Hack & Degner, 2004).

A cluster analysis was therefore used to identify distinct coping response profiles among the participants, based on their responses to the CRI. Data for the 2 main subscales (approach and avoidance) of the CRI were subject to a cluster analysis using Ward's (Ward, 1963) method of minimum-variance clustering with the

Euclidean distance as the metric. This is the most common method of assessing similarity for interval data. Despite its popularity, a limitation of Ward's clustering method is that outliers can lead to undesirable early combinations of data values that persist throughout the analysis and bias the findings (Hack & Degner, 1999). Values on the coping subscales that fell above or below the mean for that subscale by 2.5 standard deviations or more were identified as outliers (Hair, Black, Babin, & Anderson, 2010) and were subsequently deleted before conducting the cluster analysis.

2.6.3 Hypothesis three

For the third hypothesis (team effectiveness is influenced by how staff cope with the psychological stress at work) ANCOVA was conducted to determine the association of coping response style with TCI and its subscales, while taking into account the covariance of workforce characteristics variables (i.e. years working in the team and working hours per week).

2.6.4 Hypothesis four

Four the final hypothesis, staff work in AMBIT-oriented teams have a more accurate reflective capacity than staff working in non-AMBIT teams, reflective capacity for gauging work-related stress was determined by correlating participants' own total score on the GHQ- 12 with their matched colleagues predicted scores. Likewise reflective capacity for gauging coping responses was also determined by inter-participant correlation of own total score on CRI subscales with colleagues predicted scores.

3 RESULTS

3.1 Hypothesis one:

Staff working in AMBIT teams will have greater perceived team effectiveness than non-AMBIT teams

Prior to conducting the ANCOVA, the relationship between years in the team and the years since receiving formal AMBIT training was correlated to determine whether participants grouped in the AMBIT teams were true representative of staff familiar with the AMBIT culture. A significant positive relationship was found indicating that staff had received formal AMBIT training approximately the same time as when they started working in the team (r=. 532, p=. 002).

The results of the ANCOVA indicate that none of the covariates (years in team, working hours per week and sex) significantly predicted team climate (Table 3). There was no significant main effect of team organisational type on team climate after controlling for the effects of covariates, F(1, 62) =1.644, p=.205, n^2 =.023.

The mean social desirability score for the AMBIT teams (19.2, *s.d*= 3.16) and non-AMBIT teams (17.5, *s.d*= 4.04) indicated relatively low degree of desirability. Therefore it is reasonable to conclude that there was no biased scoring on the TCI from participants in both teams.

Table 3. ANCOVA results and descriptive statistics for TCI by team organisational type, years in the team and working hours

Team type	Overall TCI score			
	Mean	Adjusted mean	*s.d*	*N*
AMBIT	169.47	169.51	18.19	30
Non-AMBIT	153.26	153.23	27.53	38

	DF	*MS*	*F*	*P*	n^2
Years in the team	1	147.103	.250	.619	.004
Hours per week	1	512.867	.871	.354	.012
Team type	1	968.174	1.644	.205	.023
Sex	1	423.094	.719	.400	.010
Team type * Sex	1	316.032	.537	.467	.008
Error	62	588.788			

Note. Assumption of independence of covariates tested and was met for mean working years (F (1, 66) = .006, *p*=. 938), mean working hours per week (*F* (1, 66) = .007, *p*=. 935) with team type.
Independence of covariates also met for mean working years (F (1, 66) = .1.460, *p*=. 231), mean working hours per week (*F* (1, 66) = .049, *p*=. 826) with sex.

Homogeneity of regression was not significant between team organisational type and years in the team, *F* (1, 62) = .117, *p*>.05, and hours in team, *F* (1, 62) = .057, *p*>.05.

Assumption of homogeneity of variance determined by Hartley's F_{max} test (Pearson & Hartley, 1954). For two variances and approximately 30 participants per group, the observed value of 2.29 is less than the critical value of 2.63 for α = .01, thus not violated.

3.2 Hypothesis two:

Staff working in AMBIT teams will have different coping responses from non-AMBIT teams in response to psychological stress related to their work

There was a significant positive relationship between the GHQ-12 and the avoidance coping subscale of the CRI amongst staff in non-AMBIT teams, r= .466, p=. 003, and is a relatively large correlation (Table 4). However there was no significant relationship between the approach coping subscale and GHQ-12 in AMBIT and non-AMBIT teams. The mean GHQ scores for AMBIT teams (17.97, *s.d*=4.39) and non-AMBIT teams (18.55, *s.d*= 6.72) indicated evidence of psychological distress (GHQ >15). Comparison of the GHQ amongst staff indicated that there was no difference between the level of work related psychological stress

experienced by staff in AMBIT teams and non-AMBIT teams (t (64) =-.443, p=. 67). Although there were more staff in non- AMBIT teams (16/68= 23.5%) with a score of above 20 than AMBIT teams (7/68= 10.3%), this difference was not statistically significant, $\chi 2$ (1) = .104, $p > .05$.

Table 4. Correlational analysis between GHQ scores with CRI subscales

		r	Sig.
AMBIT teams	Approach subscale	-.230	.221
	Avoidance subscale	.184	.331
Non-AMBIT teams	Approach subscale	-.091	.588
	Avoidance subscale	.466	.003**

**** Significant at $p < 0.01$**

A cluster analysis was used to identify distinct coping response profiles among the participants. Examination of the tree dendrograms for the various cluster solutions showed that the three-cluster solution appeared to provide the best representation of the data. Larger cluster solutions had clusters with only three participants that the meaningfulness of the clusters was unclear. The means of the coping subscales for these three coping clusters were compared and a verbal descriptor was added to each cluster. Cluster 1 entailed participants who scored high to moderate on the avoidance subscale, and moderate on the approach subscale, and thus labelled “avoidance- oriented coping style”. Cluster 2 had participants scoring high to moderate on the approach subscale and low on the avoidance subscale and were labelled “approach- oriented coping style”. Finally participants within cluster 3 scored high on the approach subscale and ‘moderate to

high' on the avoidance subscale and thus labelled "general coping style". See figure 2 for goodness of fit of the coping styles against avoidance and approach subscale.

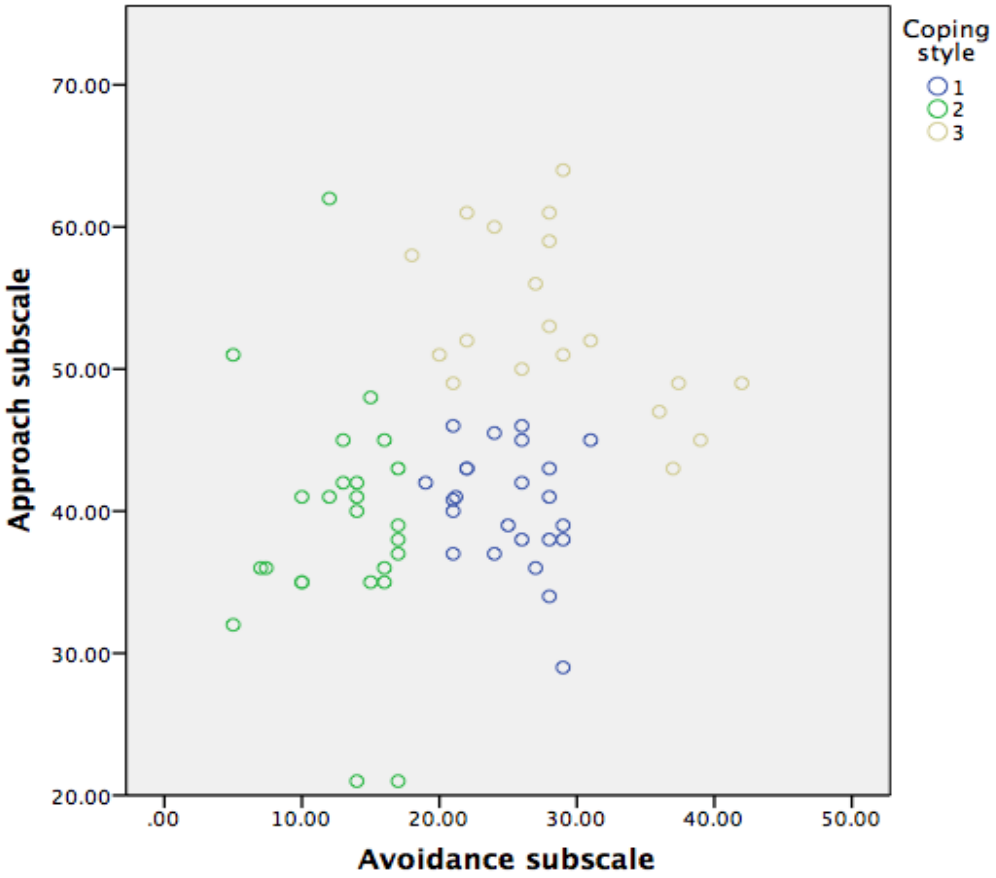

Figure 2: Scatter plot of coping style against avoidance and approach subscales

Using the three coping styles identified from the cluster analysis, chi-squared statistics was conducted to determine differences in coping styles between the two types of team (Table 5). Although the overall chi-square test is significant ($\chi 2$ (2) = 11.093, $p < .01$), evaluation of the standardised residuals within the three coping styles, which were compared to the critical value corresponding to $\alpha = 0.05$ (i.e. +/- 1.96), indicated no significant difference between staff in AMBIT and non-AMBIT teams. It did however indicate a trend towards an approach-oriented style was being over-represented in the AMBIT teams (1.8) than non-AMBIT (-1.6), and

an avoidance-oriented style being under-represented in the AMBIT teams (-1.7) compared to non-AMBIT teams (1.5).

Table 5. Chi square statistics for coping response style

Coping style	Organisational type	
	AMBIT	Non-AMBIT
Approach- oriented	17 (57%)	8 (21%)
Avoidance- oriented	5 (16%)	19 (50%)
General coping	8 (27%)	11 (29%)

Note. $\chi 2\ (2) = 11.093,\ p < .01$
Numbers in parentheses indicate column percentages.

3.3 Hypothesis three:

Team effectiveness is influenced by how staff cope with the psychological stress at work

ANCOVA indicated that there was no significant association between overall TCI scores with coping response style, after controlling for the effects of covariates, years working in the team and working hours, F (1, 63) = 2.44, p= .096, n^2 = .07. Additional ANCOVAs were conducted with the TCI subscale scores entered as dependent variables. The only marginally significant main effect found for coping style was on the Participative Safety subscale, F (1, 63) = 3.18, p= 0.048, n^2 = .09 (Table 6). Planned contrasts revealed that an avoidance-oriented coping style significantly reduced participative safety compared to an approach-oriented coping style, t (63) =, 2.32, p = .02, r= .28, but not compared to a general coping style t (63) = 1.97, p= .052, r= .24 (Table 7).

Table 6. Analysis of covariance for TCI and subscales, with coping style, years in the team and working hours

		SS	Df	MS	F	*P*	n^2
TCI	Years in the team	243.30	1	243.30	.38	.530	.01
	Hours per week	332.06	1	332.06	.71	.464	.01
	Coping style	2978.05	1	1489.02	7.69	.096	.07
	Error	38474.98	63	610.71			
Vision	Years in the team	148.89	1	148.89	2.93	.092	.04
	Hours per week	.80	1	.80	.02	.901	.00
	Coping style	96.22	2	48.11	.95	.393	.03
	Error	3198.26	63	50.77			
Participative Safety	Years in the team	3.54	1	3.54	.07	.795	.00
	Hours per week	.25	1	.25	.01	.945	.00
	Coping style	328.84	2	164.42	3.18	.048	.09
	Error	3255.63	63	51.68			
Task Orientation	Years in the team	7.27	1	7.27	.19	.663	.00
	Hours per week	26.79	1	26.79	.71	.404	.01
	Coping style	66.57	2	33.29	.88	.421	.03
	Error	2388.99	63	37.92			
Support for innovation	Years in the team	.11	1	.11	.00	.797	.00
	Hours per week	169.38	1	169.38	6.66	.012	.09
	Coping style	68.37	2	34.19	1.34	.572	.04
	Error	1602.78	63	25.44			

Note. Assumptions for ANCOVA were met for all scales, including independence of covariates, homogeneity of regression slopes and homogeneity of variance.

Table 7. Descriptive statistics for participative safety stratified by coping styles

Coping style	Participative Safety			
	Observed mean	Adjusted mean	*s.d*	*n*
General	49.37	49.39	7.93	19
Approach-oriented	49.80	49.80	5.64	25
Avoidance-oriented	45.04	45.03	7.70	24

3.4 Hypothesis four:

Staff working in AMBIT-oriented teams have a more accurate reflective capacity than staff working in non-AMBIT teams.

A correlational analysis indicated that there was no significant correlation between the participant's own scores on the CRI subscales and GHQ-12, with their matched colleague's predicted score, in both AMBIT-oriented and non-AMBIT teams (Table 8).

Table 8. Correlation coefficient of participant's own scores and colleague's predicted score for CRI scale (approach and avoidance subscale) and GHQ.

	AMBIT		Non-AMBIT	
	r	Sig	r	Sig
Approach	-.183	.333	-.023	.889
Avoidance	.119	.532	.048	.773
GHQ	.233	.216	.297	.07

4 DISCUSSION

This study aimed to explore if using an explicit mentalization organizational framework for team-working (e.g. the AMBIT approach), in children and adolescent services has an influence on (i) the team effectiveness, (ii) how staff cope with professional anxiety, and (iii) team member's reflective capacity. It also investigated whether team effectiveness is influenced by the coping strategies staff employ when dealing with work-related psychological distress.

The findings of this study did not support the first hypothesis, as there was no difference in team effectiveness between AMBIT teams and non-AMBIT teams when controlling for the influence of years in the team, working hours per week in the team, and sex. Team effectiveness research is relatively scarce in healthcare research but prevails in the organisational literature. Studies have demonstrated that behaviours that engender team effectiveness include cooperative behaviours (Eby & Dobbins, 1997), trust (Porter, 1997) and social approval (Eby & Dobbins, 1997). These behaviours all have emotional counterparts, and further studies have shown that accurate verbal and non-verbal appraisal of emotion, and regulation of emotion in self and others, benefit team performance (Jordan & Ashkanasy, 2005; Mayor & Salovey, 1997). Another key aspect of team effectiveness is constructive controversy (Alper, Tjosvold, & Law, 2000) which involves the ability to see a problem from another team member's perspective and to also understand and address any underlying emotions that may be attached to their perspective (Alper et al., 2000). Through this process a shared understanding of team objectives and task clarity can be developed (Poulton, 1999). All these teamwork factors appear to rely on skills akin to mentalization, however this association was not found in this study and warrants further research. This study did not investigate the impact of team

structure variables. However previous literature indicates that there is no significant relationship between such team structure variables and team effectiveness (e.g. Alexander et al., 2005; Brugha et al., 2012; Poulton, 1999). Whilst team processes may be partially determined by structure, the emphasis in the literature is on teamwork processes (Poulton, 1999).

What further remains unclear from this study is whether the existing AMBIT team members carry their culture in such a way that it permeates to new members joining the team who haven't received AMBIT training, i.e. whether new members as a result of the team's psychosocial traits naturally adopt a mentalizing stance. Team psychosocial traits are an epiphenomenon created by the social interactions among team members, and are cognitive (e.g. shared knowledge), motivational (shared beliefs about the team's capacity to perform effectively) and affective (e.g. trust and cohesion) properties of a collective (Kozlowski & Ilgen, 2006). Due to its intangible nature, the dynamic interplay amongst individuals and how they influence individual and team-level change has been relatively under researched (Kozlowski & Ilgen, 2006).

The second hypothesis of this study was also supported by the findings. Work-related psychological distress was high for all participants, but not significantly different between the AMBIT and non-AMBIT teams. The high worked-related psychological distress is not surprising given the anxiety-provoking nature of work with high risk client groups (Bevington et al., 2013). The study did however find that as psychological distress increased in the non-AMBIT teams, the tendency to use avoidant coping strategies also significantly increased. Furthermore staff in AMBIT teams were more approach–oriented in their coping style whereas staff in non-AMBIT teams were more avoidance- oriented. In business settings it has been

found that episodic and situational specific nature of emotions can either promote or decrease personal effectiveness on task performance (Jordan & Troth, 2002; Weiss & Cropanzano, 1996). The dichotomy of Jordan & Troth's (2002) finding may be due to how emotions in such situations are regulated and managed by the individual, as demonstrated in this study.

With the use of mentalization theory as an organisational framework, the AMBIT model aims to keep therapeutic work on track when the emotional experience of work becomes destabilising and chaotic. AMBIT recognises the impact of factors such as countertransference, common when working with mental health services, on the worker's ability to maintain a metalizing stance (Bevington & Fuggle, 2012; Bevington, Fuggle, & Fonagy, 2015; Bevington et al., 2013; Fuggle et al., 2014). However high anxiety can threaten the ability to mentalize successfully, which can compel the worker to teleological (outcome-focused) or pseudo-mentalizing responses (Bevington et al., 2013). To avoid potentially unhelpful responses in these challenging settings, the support of the team would be essential to facilitate mentalization within the key worker, and thereby encouraging adaptive coping responses. Related findings of mentalization skills increasing adaptive coping strategies for affect regulation and interpersonal conflict, has also been found in clinical therapeutic work (Asen & Fonagy, 2012, 2014; Bateman & Fonagy, 2008a, 2009; Rossouw & Fonagy, 2012; Rothschild-Yakar, Levy-Shiff, Fridman-Balaban, Gur, & Stein, 2010; Sharp et al., 2009).

There was no significant association between overall team effectiveness and coping response style, after controlling for the effects of covariates (years working in the team and working hours). The study did however find that the coping styles of individuals were oriented towards influenced the team climate in terms of

participative safety. An avoidance- oriented coping style significantly decreased participative safety, whereas approach-oriented significantly increased participative safety. A similar influence of avoidance coping on team effectiveness was also found by Menzies (1960) in her study on the organization of nursing in a London teaching hospital. Building upon Jacques' (1955) work on how social systems function as a defence against persecutory and depressive anxiety, Menzies (1960) found that avoidance coping affected the service delivery of care at a clinical level. At an organisational level, the rigid social defences of avoidance coping either eliminates situations that expose people to anxiety provoking situations altogether or insulates people from the consequences of their actions. Thus this distancing mechanism to avoid anxiety merely maintains it and impacts on the effectiveness of service practice (Hoggett, 2010; Krantz, 2010).

The final hypothesis this study investigated was whether working in a mentalizing framework increased staff reflective capacity for one another. Mentalizing is born in the context of an attachment relationship (Fonagy, Luyten, & Strathearn, 2011). The relationship between mentalization and attachment is complex, however broadly speaking threat- related activation of the attachment system inhibits mentalizing (Fonagy, Luyten, et al., 2011). Several studies have found that secure therapists are better equipped to attune to the needs of the patient and respond in ways which are inconsistent with patients' own unhelpful internal working models (Allen, 2006; Dozier, Cue, & Barnett, 1994; Romano, Janzen, & Fitzpatrick, 2009; Slade, 2008; Tyrrell, Dozier, Teague, & Fallot, 1999). Similarly an AMBIT team's support to help a colleague remain in a mentalizing stance via formal practise such as "thinking together" conversations (see Bevington & Fuggle, 2012;

Bevington et al., 2015) would avoid activation of colleague's own attachment behaviour (Sharp et al., 2011).

However, no accurate attunement to a colleague's distress and coping strategies amongst the staff in either the AMBIT or non-AMBIT teams were found. This was an unexpected finding, as the AMBIT model posits that the mechanism behind staff's resilience to professional anxiety is their reflective capacity, which helps their colleagues (and themselves) feel understood and "contained" (Bevington & Fuggle, 2012; Bevington et al., 2015; Bevington et al., 2013; Fuggle et al., 2014). The lack of a significant finding may be due to a lack of construct validity of the questionnaire design. Reflective capacity in this study was determined by asking staff to predict another colleague's score on the GHQ-12 and the CRI scales. No correlation was found between staff's own score and their colleague's predicted scores in both AMBIT and non-AMBIT teams. However gauging a colleague's work-related distress and coping strategies may not be the best indicator of reflective capacity, since the crux of it is being able to help the other make sense of their internal state (not knowing what their state is). Instead the scoring may have merely reflected how well colleagues know each other and their experience of working together, rather than mentalizing ability. This may suggest that reflective capacity, as a mechanism, is not as easily quantifiable in organisational settings as it is within the clinical population (e.g. Dziobek et al., 2006; Main & Goldwyn, 1998). Alternatively the findings may indicate that AMBIT teams' effectiveness are not attributable to the mechanism of reflective capacity (and thereby increased mentalizing) as the model proposes. It may merely a consequence of good team functioning e.g. effective communication and decision-making.

4.1 Limitations

Other methodological limitations need to be evaluated in the light of current findings. Firstly, the hierarchical structure of the data, whereby staffs are nested within the team and its organizational context, was not considered in the analysis due to inadequate power. Hierarchical linear models analysis (HLM), designed specifically for cross-level inferences (Raudenbush & Bryk, 2002) would be the ideal analysis for this data. Homogenous conceptualization of the relationship between predictor variables and TCI across the teams was therefore assumed with team and team type (i.e. AMBIT versus non-AMBIT) being modelled as fixed effects. However in true clinical settings such variables would be random effects.

The majority of staff members had received training at the time they started work. It is noteworthy that there were two further exceptions where staff members had been in the team for 8 and 11 years respectively, and received training two years ago. Thus it may be that for these two participants, high TCI scores may reflect experience and expertise on working in the team rather than skills learnt via AMBIT training. However, for the most part it can be concluded that the majority of the participants who work in AMBIT teams also received their training at a similar time to their start date, and have consistently worked in an AMBIT- oriented teamwork approach. It should also be noted that the study did not consider the possible effects of third variables, for example age, which may have influenced the findings.

Another limitation is the assumption of homogeneity of variance of TCI scores to meet the assumption for ANCOVA. The Hartley's Fmax test (Pearson & Hartley, 1954) was used to judge homogeneity of variance at $\alpha = .01$. However a stringent alpha level may increase the likelihood of a type II error. Thus the

assumption of homogeneity of variance is tentative and the findings of the ANCOVA analysis for TCI scores between team organisational types should be interpreted with caution. The final limitation of this study is that team effectiveness was measured at an organisational level and it was postulated that this would also translate to clinical outcome. However no patient level data was collected to demonstrate effectiveness at a clinical level, and this could be a potential area to investigate in future research.

4.2 Conclusion and clinical Implications

Previous findings of team-level components that contribute to team effectiveness including trust (Porter, 1997), cooperative behaviour, social approval (Eby & Dobbins, 1997) and emotional regulation (Jordan & Ashkanasy, 2005; Mayor & Salovey, 1997), all of which are skills that depend on mentalization. However this study found that there was no difference in team effectiveness between teams working under a mentalizing framework and teams not working under any explicit organisational framework. Using a mentalizing framework is not the sole method of engendering these teamwork processes but it is an explicit way of fostering this, and therefore there is scope for further research on the AMBIT approach. There was no evidence of reflective capacity and therefore this study could not suggest a cultivation of mentalizing in AMBIT teams. Future research should consider evaluating the specific mentalizing interventions the AMBIT model postulates to mediate service effectiveness.

The findings of this study support previous research that effectiveness of teamwork can be compromised by maladaptive ways of coping with professional anxiety at an individual and team level (Hoggett, 2010; Krantz, 2010; Menzies,

1960). Increasing professional anxiety, when uncontained, can make an individual vulnerable to resigning to avoidance- oriented forms of coping. Such coping style maintains the anxiety in the system and impacts on task accomplishment and sense of self- efficacy (Menzies, 1960). In the current economic climate whereby rapid changes within the NHS means that staff are expected to do more with the same or fewer resources (Bowden et al., 2014), the social defences constructed within services also change rapidly. Participative safety (which may be facilitated by mentalizing) will allow members to have an open dialogue without fear of interpersonal repercussions, about what institutional defences (Menzies, 1960) may be contributing to their stress and reducing team effectiveness. This process would thereby allow teams to innovate in the face of change (Anderson & West, 1998).

There is at present paucity in the evidence for existing models of treatments for adolescents in the U.K (Bevington et al., 2013). The AMBIT model presents mentalization theory as a potentially effective overarching framework that can connect a range of evidence-based practices in an integrated model, to ultimately increase a team's capacity to deliver interventions. This has important implications in implementation research of evidence-based interventions. It is therefore pertinent for future research to investigate whether working in a mentalizing team contributes to improved team effectiveness, on a larger scale study. Furthermore it would be crucial to find out whether team outcomes translates into clinical outcome via measures of evidence-based practices e.g. treatment adherence, therapist competence and therapeutic alliance. This study contributes a small step towards this end.

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Part 3:

Critical Appraisal

1 INTRODUCTION

This critical appraisal seeks to reflect on the issues that arose during the implementation of the research project, beginning with an overview on what motivated me to study mentalization in relation to healthcare team effectiveness. Key areas considered will be the process of designing the study, how reflective capacity was measured and the limitations encountered with this. The intention is that these reflections will be beneficial for future researchers interested in healthcare team effectiveness research, particularly for those interest in measuring how anxiety is managed within the team.

1.1. Background

I have been interested in evidence based practice (EBP) throughout my training and during my placements I have noticed that whilst mental health services value EBP and recognise its contribution towards improving patient outcome, clinical practice at times does not always have an evidence focus. I became curious about what was preventing competent staff across all disciplines to be able to apply EBP in their organisations, and when these skills and access to knowledge were being compromised.

Parallel to this interest was also my curiosity in mentalization theory and its application in clinical work, and I became aware of the importance of clinicians to be able to maintain a mentalizing stance during therapy for the benefit of the client. I therefore requested my third year placement which delivers mentalization based treatment (MBT) to people with personality disorders, so that I can further develop mentalizing techniques. From my experience of working with this client group and

under this model, I began to appreciate the importance of mentalizing, not just for the delivery of effective therapy, but to also support colleagues when they have come out of a difficult session. There were instances when I myself left an individual or group session with confused emotions. My colleagues were supportive in helping me mentalize my current state and recognise the projective identification that had taken place during the session. I soon realised that having a team who knew how to contain and help me regain my mentalizing capacity was something that was lacking from my previous placements.

When I found out about AMBIT I recognised its unique use of mentalizing skills to help staff regain their capacity to think and to deliver effective interventions, thereby potentially addressing the gap in implementation of evidence-based practice. AMBIT is a set of well-defined practices supported by a process of manualisation, which can be adapted and refined for local implementation. It focuses on a range of non-specific aspects of many treatment interventions which are often embedded in evidence based methods and practices. These include the importance of the therapeutic alliance, the value of manualisation, the importance of a clear structure to the therapy, a clear rationale for decision making, involvement of service-user in a shared understanding of the intervention process. Furthermore AMBIT was initially developed to increase team effectiveness in services working with children and adolescents with high risk presentation, and who are often offered services that are poorly equipped to provide for their needs (Kessler et al., 2010). The theory and framework also lends itself to creating a team whereby members can sustain a sense of self-efficacy during the periods of high stress, and the accessibility of the theory means that staff would be able to grasp the concept and

apply it easily. I was therefore excited to be able to contribute to evaluating the effectiveness of this novel teamwork model.

1.2. Designing the study

The AMBIT teams recruited in this study have established the use of the framework for some years now. It was therefore not feasible to conduct a longitudinal team effectiveness study since even newly trained teams would not have adopted the necessary skills within the time limit of this study. It was therefore decided with my supervisors to conduct a cross-sectional study comparing AMBIT teams with teams working with similar client groups, i.e. children and adolescent with multiple social and psychological vulnerabilities. For the ease of recruitment the comparison teams were those that enrolled on the AMBIT training at the Anna Freud Centre. Although all staff in this group were recruited prior to receiving any formal AMBIT training, it is important to consider what attracts a team to want to learn about AMBIT. It may be the case that teams attracted to the AMBIT model may have chosen to enrol because the model was line with their team values. Thus their predisposing values about team-working may suggest that they were already working in a way akin to the AMBIT approach, but want finer tuning. Although some significant differences were found in this study between AMBIT teams and comparison teams, it would have been interesting to compare AMBIT teams with teams that haven't heard about the AMBIT model, and thereby assuming they are not aware or practicing their principles. However it should also be noted that the training of whole teams is very different from training individuals motivated to learn about a particular therapy. Inevitably it involves individuals with a range of different views about the training itself and what they wish to get from it. Thus there may

have been individuals in the training that were recruited in the study, who were resistant to the AMBIT concept. This may have been why significant differences were found.

The next process of designing the evaluation study was deciding on what primary outcome would be suitably determine the impact of the AMBIT model. This study was interested in team-level differences (as opposed to patient-related outcome). Previous service evaluation studies in mental health research had measured staff-related outcomes including turnover rate, burnout, emotional exhaustion and job dissatisfaction (Feldman, 2001; Mechanic, 2007; Sederer & Mirin, 1994). Whilst these outcomes may be an indication of poor team-working or organizational structure, the AMBIT model does not propose to address these outcomes directly. Instead it accepts that professional anxiety is the reality and is inherent to the nature of the work, and at times the anxiety is necessary when working with high risk client groups (Bevington & Fuggle, 2012; Bevington et al., 2013). The model does however propose that its main focus for team members is an enhanced sense of professional self-efficacy, even during periods of high stress. This may be indicated in a number of ways including the experience of feeling understood and well supported by others in the team, feeling part of the team, confidence in the work and positive attitudes to work. I therefore wanted to choose a measure that was designed to capture the team environment in which staff worked in rather than measures focusing on individual-based outcome. The Team Climate Inventory (Anderson & West, 1998) was a commonly used measure of team climate, both in the organisational and health care literature (Agrell & Gustafson, 1994; Ouwens et al., 2008), and the measure determines perceived team effectiveness. The factors it measures are those that have demonstrated to contribute to team

effectiveness in the organisational literature including support for innovation, shared team vision and 'participative' or 'psychological' safety (Edmondson, 1999). Ideally the individual scores would have been aggregated to a team level, however since there were small team sizes (the smallest team comprising of four members) this method would not have been suitable for this study.

The secondary outcome measures were decided upon by considering what AMBIT proposes to be the mediating factors that affects team effectiveness, which includes increased sense of self-efficacy. A person having strong self-efficacy beliefs is likely to evaluate the stressful situation as a challenge and would put effort towards a search of available resources to achieve the selected goal/s. Conversely, a person with less self-efficacy is likely to evaluate the same situation as threatening (Cudre´-Mauroux, 2010). Thus an increased sense of self-efficacy results to more adaptive coping responses. Mentalization theory also supports this, suggesting that uncontained anxiety can result in coping efforts that are ultimately self-destructive or maladaptive (Bleiberg, 2003). Since previous studies have found that maladaptive coping can affect team effectiveness, it was therefore decided that measuring coping responses would be an appropriate secondary measure. The Coping Responses Inventory (Moos, 1993) had been chosen and although initially designed for the clinical population, the items in the scale are applicable to measuring ways of coping with work-related stress. Furthermore the measure covers both cognitive and behavioural forms of coping within avoidant and approach oriented responses. It therefore seemed a comprehensive scale to use.

1.3 Measuring reflective capacity

Another secondary outcome was reflective capacity (the operationalised referent to mentalizing capacity) since it lies at the crux of mentalizing skills and has been argued to be the factor that contributes to self-efficacy amongst staff, and therefore impacting on team effectiveness. It thus seemed pertinent to measure this. A general literature search was conducted to find any related studies, and there appeared to be no study which considered the reflective capacity amongst healthcare staff. There was however scales developed to measure this for clinical use.

Traditionally reflective capacity had been measured using the Reflective Functioning (RF) Scale, which measures within the context of an attachment relationship. It is measured by coding Adult Attachment Interview narratives (AAI: Main & Goldwyn, 1998) looking at the thinking revealed by interviewees about their own and others' mental states, as part of understanding their experiences within attachment relationships. It would not be practical to administer as part of this project given that it is not only very time-consuming but also requires considerable training. It also would not have been adaptable to relationships with colleagues.

Another popular scale is the Movie for the Assessment of Social Cognition (MASC: Dziobek et al., 2006). This requires participants to watch a film showing four characters meeting for a dinner and to answer questions about their thoughts, feelings and intentions. It has strong ecological validity because participants are required to accurately interpret the positive and negative valence of characters' thoughts, emotions and intentions, through both verbal and non-verbal displays and to recognise and understand concepts such as first and second order false belief, persuasion, sarcasm and irony. Although these tasks would give a good impression

of participants' 'mentalizing profile' (Fonagy, Bateman, & Bateman, 2011, p.106), as with the RF scale, the final score of the MASC would not reveal anything about staff's' attunement with each other.

Since none of the identified clinical scales were applicable to measuring staff reflective capacity, I decided to design my own way of measuring this. Therefore the approach this study took to measure reflective capacity is novel and needs further review for improvement. Deciding on how to measure reflective capacity was informed by considering what the counterparts to successful mentalizing were. The importance of reflective capacity amongst colleagues is to be able to contain and reflect back your colleague's distress by accurately attuning to it. Thus it requires firstly gauging the level of distress the colleague was experiencing. For this reason being able to predict work-related distress was considered. The GHQ-12 (Goldberg & Hillier, 1979) had been used extensively in occupational research and to measure work-related psychological distress (e.g. Hardy et al., 1999; Lesage et al., 2011), and thus appeared to be the most appropriate measure for inter-participant correlation. Since contained anxiety (and thereby regained capacity to think) results to flexibility in choice of coping behaviour, it was therefore assumed that if one could gauge the level of distress they could also predict how the individual will choose to cope with it. Therefore participants were also to predict their matched colleague's score on the CRI.

Whilst in theory this approach to measuring reflective capacity seemed feasible at the time, in practice the weakness of this design became apparent. Thus it is likely that the lack of significant finding might reflect a lack of construct validity, as there are many other factors that could have influenced the scoring. Firstly, staff were ask to partner with a colleague whom they knew well in the team. However the

confounding factor of colleagues knowing and working with each other for a long time means that their scores would reflect merely this i.e. how well they know each other, rather than accurate attunement. The able to contain another's anxiety via mentalizing skills does not necessarily rely on knowing the other person well enough (although it helps). For example one form of successful mentalizing technique would involve helping the other explore their current emotional state and identify their feelings towards themselves and towards the situation. The skill is therefore not necessarily knowing what the other is feeling rather helping them realise and name it for themselves. Although it feels safer to explore difficult emotions with someone you are familiar with, containment is not necessarily dependent on it.

I asked for feedback from the participants on their experience of completing the questionnaires. The most common feedback was the difficulty of predicting another colleague's score on the GHQ-12 and CRI when they had not worked in the team for long. The length of years in the team varied amongst members in each team, as some professional roles were temporary e.g. assistant psychologist. Some participants reported that this consequently lead them to making assumptions and guess work. Another popular feedback was that some members experienced the questionnaires as lengthy. With the two scales combined there are in total 60 items and part way through, staff reported that their responses were hurried rather than making a thoughtful attempt to try to attune to the other person's mind set when answering. Thus it was interesting to note that regardless of how well members know each other, a cumbersome set of questionnaires can itself shut down mentalizing.

The analysis of reflective capacity not only did not consider how long members had been in the team, but it also did not factor in the varied professional

roles in the teams. Particular professions such as therapists, psychologists and even nurses, would have been familiar with the concepts of mentalizing regardless of whether they've had explicit training in it. For example as a psychologist myself I'm aware that I am continually hypothesising about the mental states underlying my patients' actions. Thus as trained health professionals working in mental health we have specific skills in explicit, controlled mentalizing, particularly in relation to others. Therefore certain staff in teams not explicitly using mentalizing framework may still be good at containing their fellow colleagues' anxiety.

1.4 Considerations for future research

This study found that AMBIT teams had an increased team effectiveness with an assumption that this is a result of using mentalization theory as an organisational framework. Although differences in coping responses were also found between the two team types, the study could not prove that this was a direct result of cultivating a mentalizing framework as there was no evidence of increased sense of reflective capacity. One reason for this might be the lack of construct validity of using inter-participant correlation of GHQ-12 and CRI, between participants own score and their colleagues predicted scores. I realised from the process of the research the benefits of piloting questionnaires with feedback before implementing a newly designed measure into the main study. Upon reflection a suitable measure of reflective capacity may be one that considers the specific mentalizing skills AMBIT proposes to train staff in, rather than being able to know how well fellow colleagues cope and respond to stress. Another weakness of the study is the analysis used to measure team effectiveness. Hierarchical linear modelling is the most appropriate analysis for a nested structure and is increasingly

used in social science research (Woltman et al., 2012). Future researcher should consider recruiting an adequate sample size.

One of the motivation for developing AMBIT was to increase the service capacity to provide evidence based interventions to clients they are struggling to engage with due to their high risk presentation (Bevington et al., 2013). Future research could also investigate whether the benefits of working in a containing and mentalizing teams translates to effectiveness in service delivery in terms of clinical outcome.

1.5 Concluding remarks

The experience of conducting my major research project has been a rewarding one. It has given me the desire to incorporate research into my clinical psychology career, as throughout this process I realised why psychologists are so well placed to conduct research. Being part of the AMBIT research project was particularly valuable to me as it complemented my experience at placement and vice versa. The research experience will also be of benefit to my professional development, as I am interested in further learning how to foster a metalizing team with an ultimate aim to improve service delivery.

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APPENDICES

Appendix A: Joint Project Contributions

This thesis was carried out as a joint project with two other Trainee Clinical Psychologist, Paul Gelston and Rashal Ullah, who were also being supervised by Professor Peter Fonagy. The three thesis projects had different working titles and as such had different designs and aims.

Paul Gelston's project was interested in the impact of AMBIT on young people and particularly whether there were any improvements on mentalization, empathy and attachment in comparison to other services and healthy controls. Rashal Ullah's project was a qualitative study exploring team members experience in working under an AMBIT framework.

The three researchers worked together in approaching AMBIT teams and presenting our research projects to attract recruitment. Rashal Ullah and I applied for UCL ethics and recruited some AMBIT teams jointly. The researcher did the data collection, database entry and analysis independently for their own study. The write up of the empirical papers was also done independently.

Appendix B: Ethics Approval Letter

UCL RESEARCH ETHICS COMMITTEE
GRADUATE SCHOOL OFFICE

Professor Peter Fonagy
Research Department of Clinical, Educational and Health Psychology
UCL

1st April 2014

Dear Professor Fonagy

Notification of Ethical Approval
Project ID: 5378/001: Teamwork effectiveness in adolescent mental health services

In my capacity as Chair of the UCL Research Ethics Committee (REC) I am pleased to confirm that I have approved your study for the duration of the project i.e. until October 2015.

Approval is subject to the following conditions:

1. You must seek Chair's approval for proposed amendments to the research for which this approval has been given. Ethical approval is specific to this project and must not be treated as applicable to research of a similar nature. Each research project is reviewed separately and if there are significant changes to the research protocol you should seek confirmation of continued ethical approval by completing the 'Amendment Approval Request Form'.

The form identified above can be accessed by logging on to the ethics website homepage: http://www.grad.ucl.ac.uk/ethics/ and clicking on the button marked 'Key Responsibilities of the Researcher Following Approval'.

2. It is your responsibility to report to the Committee any unanticipated problems or adverse events involving risks to participants or others. Both non-serious and serious adverse events must be reported.

   Reporting Non-Serious Adverse Events
   For non-serious adverse events you will need to inform Helen Dougal, Ethics Committee Administrator (ethics@ucl.ac.uk), within ten days of an adverse incident occurring and provide a full written report that should include any amendments to the participant information sheet and study protocol. The Chair or Vice-Chair of the Ethics Committee will confirm that the incident is non-serious and report to the Committee at the next meeting. The final view of the Committee will be communicated to you.

   Reporting Serious Adverse Events
   The Ethics Committee should be notified of all serious adverse events via the Ethics Committee Administrator immediately the incident occurs. Where the adverse incident is unexpected and serious, the Chair or Vice-Chair will decide whether the study should be terminated pending the opinion of an independent expert. The adverse event will be considered at the next Committee meeting and a decision will be made on the need to change the information leaflet and/or study protocol.

On completion of the research you must submit a brief report (a maximum of two sides of A4) of your findings/concluding comments to the Committee, which includes in particular issues relating to the ethical implications of the research.

With best wishes for your research.

Yours sincerely

[redacted]

Professor John Foreman
Chair of the UCL Research Ethics Committee

Cc:
Keerthana Rudhra & Rashal Ullah, Applicants

Appendix C: Manual for Quality Scoring of Quantitative Studies (QualSyst: Kmet, Lee, & Cook, 2004)

How to calculate the summary score

Total sum = (number of "yes" * 2) + (number of "partials" * 1)

Total possible sum = 28 – (number of "N/A" * 2)

Summary score: total sum / total possible sum

Quality assessment

1. ***Question or objective sufficiently described?***
   Yes: Is easily identified in the introductory section (or first paragraph of methods section). Specifies (where applicable, depending on study design) *all* of the following: purpose, subjects/target population, and the *specific* intervention(s) /association(s)/descriptive parameter(s) under investigation. A study purpose that only becomes apparent after studying other parts of the paper is *not* considered sufficiently described.
   Partial: Vaguely/incompletely reported (e.g. "describe the effect of" or "examine the role of" or "assess opinion on many issues" or "explore the general attitudes"...); *or* some information has to be gathered from parts of the paper other than the introduction/background/objective section.
   No: Question or objective is not reported, or is incomprehensible.
   N/A: Should not be checked for this question.

2. ***Design evident and appropriate to answer study question?*** **(If the study question is not given, infer from the conclusions).**
   Yes: Design is easily identified and is appropriate to address the study question / objective.
   Partial: Design and /or study question not clearly identified, but gross inappropriateness is not evident; *or* design is easily identified but only partially addresses the study question.
   No: Design used does not answer study question (e.g., a comparison group is required to answer the study question, but none was used); *or* design cannot be identified.
   N/A: Should not be checked for this question.

3. ***Method of subject selection (and comparison group selection, if applicable) or source of information/input variables (e.g., for decision analysis) is described and appropriate.***
   Yes: Described and appropriate. Selection strategy *designed* (i.e., consider sampling frame and strategy) to obtain an unbiased sample of the relevant target population or the entire target population of interest (e.g., consecutive patients for clinical trials, population-based random sample for case-control studies or surveys). Where applicable, inclusion/exclusion criteria are described and defined (e.g., "cancer" -- ICD code or equivalent should be provided). *Studies of volunteers:* methods and setting of recruitment reported. *Surveys:* sampling frame/ strategy clearly described and appropriate.
   Partial: Selection methods (and inclusion/exclusion criteria, where applicable) are not completely described, but no obvious inappropriateness. Or selection strategy is not ideal (i.e., likely introduced bias) but did not likely seriously distort the results (e.g., telephone survey sampled from listed phone numbers only; hospital based case-control study identified all cases admitted during the study period, but recruited controls admitted during the day/evening only). Any study describing participants only as "volunteers" or "healthy volunteers". *Surveys:* target population mentioned

but sampling strategy unclear.
No: No information provided. *Or* obviously inappropriate selection procedures (e.g., inappropriate comparison group if intervention in women is compared to intervention in men). *Or* presence of selection bias which likely seriously distorted the results (e.g., obvious selection on "exposure" in a case-control study).
N/A: Descriptive case series/reports.

4. ***Subject (and comparison group, if applicable) characteristics or input variables/information (e.g., for decision analyses) sufficiently described?***
Yes: Sufficient relevant baseline/demographic information clearly characterizing the participants is provided (or reference to previously published baseline data is provided). Where applicable, reproducible criteria used to describe/categorize the participants are clearly defined (e.g., ever-smokers, depression scores, systolic blood pressure > 140). If "healthy volunteers" are used, age and sex must be reported (at minimum). *Decision analyses:* baseline estimates for input variables are clearly specified.
Partial: Poorly defined criteria (e.g. "hypertension", "healthy volunteers", "smoking"). *Or* incomplete relevant baseline / demographic information (e.g., information on likely confounders not reported). *Decision analyses:* incomplete reporting of baseline estimates for input variables.
No: No baseline / demographic information provided. *Decision analyses:* baseline estimates of input variables not given.
N/A: Should not be checked for this question.

5. ***If random allocation to treatment group was possible, is it described?***
Yes: True randomization done - requires a description of the method used (e.g., use of random numbers).
Partial: Randomization mentioned, but method is not (i.e. it may have been possible that randomization was not true).
No: Random allocation not mentioned although it would have been feasible and appropriate (and was possibly done).
N/A: Observational analytic studies. Uncontrolled experimental studies. Surveys. Descriptive case series / reports. Decision analyses.

6. ***If interventional and blinding of investigators to intervention was possible, is it reported?***
Yes: Blinding reported.
Partial: Blinding reported but it is not clear who was blinded.
No: Blinding would have been possible (and was possibly done) but is not reported.
N/A: Observational analytic studies. Uncontrolled experimental studies. Surveys. Descriptive case series / reports. Decision analyses.

7. ***If interventional and blinding of subjects to intervention was possible, is it reported?***
Yes: Blinding reported.
Partial: Blinding reported but it is not clear who was blinded.
No: Blinding would have been possible (and was possibly done) but is not reported.
N/A: Observational studies. Uncontrolled experimental studies. Surveys. Descriptive case series / reports.

8. ***Outcome and (if applicable) exposure measure(s) well defined and robust to measurement / misclassification bias? Means of assessment reported?***
Yes: Defined (or reference to complete definitions is provided) and measured according to reproducible, "objective" criteria (e.g., death, test completion – yes/no, clinical scores). Little or minimal potential for measurement / misclassification errors.

Surveys: clear description (or reference to clear description) of questionnaire/ interview content and response options. *Decision analyses:* sources of uncertainty are defined for all input variables.
Partial: Definition of measures leaves room for subjectivity, *or* not sure (i.e., not reported in detail, but probably acceptable). *Or* precise definition(s) are missing, but no evidence or problems in the paper that would lead one to assume major problems. *Or* instrument/mode of assessment(s) not reported. Or misclassification errors may have occurred, but they did not likely seriously distort the results (e.g., slight difficulty with recall of long-ago events; exposure is measured only at baseline in a long cohort study). *Surveys:* description of questionnaire/interview content incomplete; response options unclear. *Decision analyses:* sources of uncertainty are defined only for some input variables.
No: Measures not defined, or are inconsistent throughout the paper. *Or* measures employ only ill-defined, subjective assessments, e.g. "anxiety" or "pain." *Or* obvious misclassification errors/measurement bias likely seriously distorted the results (e.g., a prospective cohort relies on self-reported outcomes among the "unexposed" but requires clinical assessment of the "exposed"). *Surveys:* no description of questionnaire/interview content or response options. *Decision analyses:* sources of uncertainty are not defined for input variables.
N/A: Descriptive case series / reports.

9. ***Sample size appropriate?***
Yes: Seems reasonable with respect to the outcome under study and the study design. When statistically significant results are achieved for major outcomes, appropriate sample size can usually be assumed, unless large standard errors (SE > ½ effect size) and/or problems with multiple testing are evident. *Decision analyses:* size of modeled cohort / number of iterations specified and justified.
Partial: Insufficient data to assess sample size (e.g., sample seems "small" and there is no mention of power/sample size/effect size of interest and/or variance estimates aren't provided). *Or* some statistically significant results with standard errors > ½ effect size (i.e., imprecise results). *Or* some statistically significant results in the absence of variance estimates. *Decision analyses:* incomplete description or justification of size of modeled cohort / number of iterations.
No: Obviously inadequate (e.g., statistically non-significant results and standard errors > ½ effect size; or standard deviations > _ of effect size; or statistically non-significant results with no variance estimates and obviously inadequate sample size). *Decision analyses:* size of modeled cohort / number of iterations not specified.
N/A: Most surveys (except surveys comparing responses between groups or change over time). Descriptive case series / reports.

10. ***Analysis described and appropriate?***
Yes: Analytic methods are described (e.g. "chi square"/ "t-tests"/"Kaplan-Meier with log rank tests", etc.) and appropriate.
Partial: Analytic methods are not reported and have to be guessed at, but are probably appropriate. *Or* minor flaws or some tests appropriate, some not (e.g., parametric tests used, but unsure whether appropriate; control group exists but is not used for statistical analysis). *Or* multiple testing problems not addressed.
No: Analysis methods not described and cannot be determined. *Or* obviously inappropriate analysis methods (e.g., chi-square tests for continuous data, SE given where normality is highly unlikely, etc.). *Or* a study with a descriptive goal / objective is over-analyzed.
N/A: Descriptive case series / reports.

11. ***Some estimate of variance (e.g., confidence intervals, standard errors) is reported for the main results/outcomes (i.e., those directly addressing the***

study question/ objective upon which the conclusions are based)?
Yes: Appropriate variances estimate(s) is/are provided (e.g., range, distribution, confidence intervals, etc.). *Decision analyses:* sensitivity analysis includes all variables in the model.
Partial: Undefined "+/-"expressions. *Or* no specific data given, but insufficient power acknowledged as a problem. *Or* variance estimates not provided for all main results/outcomes. *Or* inappropriate variance estimates (e.g., a study examining change over time provides a variance around the parameter of interest at "time 1" or "time 2", but does not provide an estimate of the variance around the difference). *Decision analyses:* sensitivity analysis is limited, including only some variables in the model.
No: No information regarding uncertainty of the estimates. *Decision analyses:* No sensitivity analysis.
N/A: Descriptive case series / reports. Descriptive surveys collecting information using open-ended questions.

12. ***Controlled for confounding?***
Yes: Randomized study, with comparability of baseline characteristics reported (or non-comparability controlled for in the analysis). *Or* appropriate control at the design or analysis stage (e.g., matching, subgroup analysis, multivariate models, etc). *Decision analyses:* dependencies between variables fully accounted for (e.g., joint variables are considered).
Partial: Incomplete control of confounding. *Or* control of confounding reportedly done but not completely described. *Or* randomized study without report of comparability of baseline characteristics. *Or* confounding not considered, but not likely to have seriously distorted the results. *Decision analyses:* incomplete consideration of dependencies between variables.
No: Confounding not considered, and may have seriously distorted the results. *Decision analyses:* dependencies between variables not considered.
N/A: Cross-sectional surveys of a single group (i.e., surveys examining change over time or surveys comparing different groups should address the potential for confounding). Descriptive studies. Studies explicitly stating the analysis is strictly descriptive/exploratory in nature.

13. ***Results reported in sufficient detail?***
Yes: Results include major outcomes and all mentioned secondary outcomes.
Partial: Quantitative results reported only for some outcomes. *Or* difficult to assess as study question/objective not fully described (and is not made clear in the methods section), but results seem appropriate.
No: Quantitative results are reported for a subsample only, or "n" changes continually across the denominator (e.g., reported proportions do not account for the entire study sample, but are reported only for those with complete data i.e., the category of "unknown" is not used where needed). *Or* results for some major or mentioned secondary outcomes are only qualitatively reported when quantitative reporting would have been possible (e.g., results include vague comments such as "more likely" without quantitative report of actual numbers).
N/A: Should not be checked for this question.

14. ***Do the results support the conclusions?***
Yes: All the conclusions are supported by the data (even if analysis was inappropriate). Conclusions are based on all results relevant to the study question, negative as well as positive ones (e.g., they aren't based on the sole significant finding while ignoring the negative results). Part of the conclusions may expand beyond the results, if made *in addition to* rather than instead of those strictly

supported by data, and if including indicators of their interpretative nature (e.g., “suggesting,” “possibly”).
Partial: Some of the major conclusions are supported by the data, some are not. *Or* speculative interpretations are not indicated as such. *Or* low (or unreported) response rates call into question the validity of generalizing the results to the target population of interest (i.e., the population defined by the sampling frame/strategy).
No: None or a very small minority of the major conclusions are supported by the data. *Or* negative findings clearly due to low power are reported as definitive evidence against the alternate hypothesis. *Or* conclusions are missing. *Or* extremely low response rates invalidate generalizing the results to the target population of interest (i.e., the population defined by the sampling frame/ strategy).
N/A: Should not be checked for this question.

Appendix D: Information Sheets and Consent Forms for Non- AMBIT Teams

This study has been approved by the UCL Research Ethics Committee.
(Project ID Number): 5378/001

You will be given a copy of this information sheet.

Researchers	Keerthana Rudhra
Work Address	University College London Division of Psychology and Language Gower Street London WC1E 6BT
Contact Details	k.rudhra.12@ucl.ac.uk & rashal.ullah.12@ucl.ac.uk

TEAMWORK EFFECTIVENESS AND TEAM CLIMATE IN ADOLESCENT MENTAL HEALTH SERVICES

INFORMATION SHEET FOR PARTICIPANTS

We would like to invite you to take part in this research project, which is interested in the team climate amongst staff working in mental health services for adolescents. Please take time to read the following information carefully, and you can ask us if there is anything that is not clear or if you would like more information (the researchers' contact details are provided on the last page).

What is this research looking at?

This research is interested in finding out what makes a team effective in coping with the professional anxiety that is common amongst staff working with "hard to reach" adolescents and their families. Your team has been invited to participate in this study because we would like to compare different teamwork approaches.

Do I have to take part?

Your participation in the study is voluntary and choosing not to participate will not disadvantage you in any way. If you do decide to take part, you may withdraw at any time without an explanation.

If I agree to take part what does my participation involve?

The study will be looking at how team members work with each other, how they cope with the work demands, the impact of the work, and the general experience of being in the team. You will be asked to pair up with another colleague who knows you well in the professional setting (e.g. a supervisor or someone you sit next to). You will be asked to complete self-report questionnaires in pairs because we are interested in how colleagues work together. This can take 45-60 minutes to complete. You would not be asked to disclose any information about the clients on your caseload.

Who can participate?

All professionals of the multidisciplinary team can take part in this study.

Where will it take place?

If you do agree to participate the researchers will visit you at your site of work at an agreed date to begin the data collection.

Are there any risks of participating?

This study involves thinking about your work with clients and other professionals, which may arouse some anxiety or distress when answering the questions. You will not be required to answer any questions that you feel uncomfortable with, and you are entitled to withdraw at any point. The researcher will provide a debrief session the study.

What are the benefits for my team and me if we participated?

There are no direct benefits however your participation can help identify what teamwork factors are helpful (and unhelpful) when trying to engage young people with mental health services. The data collected by participants will be anonymously coded and therefore it will not be possible to trace the individual outcomes. However a summary of the overall findings in this research will be sent to your team, which may come of benefit to your service.

How will confidentiality be ensured?

The data will be collected and stored in accordance with the Data Protection Act 1998 and will be disposed of in a secure manner. All identifying information will be anonymously coded onto a database for each participant of this research. Only the researchers will have access to the database. The findings of this research project may be used for research dissemination in presentations and publications however the participants will not be identifiable.

What will happen to the findings of this research?

The findings of this research may be disseminated through journal publication and presentations. There may also be scope for the findings to be used in future research. A summary report of our results will be sent to your team.

Who can I contact if I have more questions or I am unsatisfied?

If you have any questions or require more information about this research project, please contact the researcher using the following contact details:

Keerthana Rudhra
k.rudhra.12@ucl.ac.uk

Rashal Ullah
r.ullah.12@ucl.ac.uk

University College London
Division of Psychology and Language
1-19 Torrington Place
London
WC1E 7HB

If this research has harmed you in any way, you can contact University College London using the details below for further advice and information:

Peter Fonagy
P.fonagy@ucl.ac.uk

University College London
Research Department of Clinical, Educational and Health Psychology
1-19 Torrington Place
London
WC1E 7HB

If you decide to take part you will be given this information sheet to keep and be asked to sign a consent form. A copy of a signed consent form will be given to you.

CONSENT FORM FOR PARTICIPATING IN THIS RESEARCH PROJECT

Please complete this form after you have read the Information Sheet.

Title of research project: Teamwork Effectiveness and Team Climate in Adolescent Mental Health Services
University College London Research Ethics Committee Ref:_____

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before

Please tick or initial

you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

- **I understand that confidentiality and anonymity will be maintained and it will not be possible to identify me in any publications or research dissemination. I understand that such information will be handled in accordance with the terms of the UK Data Protection Act 1998.** ☐
- **I agree that the research team may use my data for future research and understand that any such use of identifiable data would be reviewed and approved by a research ethics committee.** ☐
- **I understand that if I decide at any time during the research that I no longer wish to participate in this project, I can notify the researchers involved and withdraw from it immediately without giving any reason.** ☐

Participant's Statement:

I _____

agree that the research project named above has been explained to me to my satisfaction. I agree to take part in the research and my participation is voluntary. I have read both the notes written above and the Information Sheet about the project, and understand what the research project involves.

Signed **Date**

Researcher's Statement:

I _____

Confirm that I have carefully explained the nature, demands and any foreseeable risks (where applicable) of the proposed research to the participant.

Signed **Date**

Appendix E: Information Sheets and Consent Forms for AMBIT Teams

Teamwork Effectiveness in Adolscent Mental Health Services

This study has been approved by the UCL Research Ethics Committee.
(Project ID Number): 5378/001

You will be given a copy of this information sheet.

Researchers	Keerthana Rudhra
Work Address	University College London Division of Psychology and Language Gower Street London WC1E 6BT
Contact Details	k.rudhra.12@ucl.ac.uk & rashal.ullah.12@ucl.ac.uk

Details of Study:

We would like to invite you to take part in this research project, which is interested in the team climate amongst staff working in mental health services for adolescents. Please take time to read the following information carefully, and you can ask us if there is anything that is not clear or if you would like more information.

What is this research looking at?

This research is interested in finding out what makes a team effective in coping with the professional anxiety that is common amongst staff working with "hard to reach" adolescents and their families. Your team has been invited to participate in this study because we are also interested in teams that have received AMBIT (Adolescent Mentalization Based Integrative Therapy) training and have incorporated the AMBIT approach. We want to find out what about the AMBIT approach is working (and not working) for your service.

Do I have to take part?

Your participation in the study is voluntary and choosing not to participate will not disadvantage you in any way. If you do decide to take part, you may withdraw at any time without an explanation and your data will not be used in the analysis of the study. Non-participation or withdrawal will not affect your employment status.

If I agree to take part what does my participation involve?

The study will be looking at how team members work with each other, how they cope with the work demands, the impact of the work, and the general experience of being in the team. You will be asked to pair up with another colleague who knows you well in the professional setting (e.g. a supervisor or someone you sit next to). You will be asked to complete self-report questionnaires in pairs because we are interested in how colleagues work together. This can take 30- 45 minutes to complete. You would not be asked to disclose any information about the clients on your caseload.

Who can participate?

All professionals of the multidisciplinary team can take part in this study.

Where will it take place?

If you do agree to participate, the researcher will visit you at your site of work at an agreed date to begin the data collection.

Are there any risks of participating?

This study involves answering questions concerning work stress. It is unlikely that this will arouse anxiety or distress, however the researcher will provide a debrief session afterwards if necessary. You will not be required to answer any questions that you feel uncomfortable with.

What are the benefits for my team and me if we participated?

There are no direct benefits however your participation can help identify what teamwork factors are helpful (and unhelpful) when trying to engage young people with mental health services.

The data collected by participants will be anonymously coded and therefore it will not be possible to trace the individual outcomes. However a summary of the overall findings in this research will be sent to your team, which may come of benefit to your service.

How will confidentiality be ensured?

The data will be collected and stored in accordance with the Data Protection Act 1998 and will be disposed of in a secure manner. All identifying information will be anonymously coded onto a database for each participant of this research. Only the researchers will have access to the database. The findings of this research project may be used for research dissemination in presentations and publications however the participants will not be identifiable.

What will happen to the findings of this research?

The findings of this research may be disseminated through journal publication and presentations. There may also be scope for the findings to be used in future research. A summary report of our results will be sent to your team.

Who can I contact if I have more questions or I am unsatisfied?

If you have any questions or require more information about this research project, please contact the researcher using the following contact details:

Keerthana Rudhra
k.rudhra.12@ucl.ac.uk

University College London
Division of Psychology and Language
1-19 Torrington Place,
London
WC1E 7HB

If this research has harmed you in any way, you can contact University College London using the details below for further advice and information:

Professor Peter Fonagy
University College London
Research Department of Clinical, Educational and Health Psychology
1-19 Torrington Place, London, WC1E 7HB
P.fonagy@ucl.ac.uk

Alternatively you can also get in touch with the local collaborator:

…….

…….

If you decide to take part you will be given this information sheet to keep and be asked to sign a consent form. A copy of a signed consent form will be given to you.

CONSENT FORM FOR PARTICIPATING IN THIS RESEARCH PROJECT

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Project: T**eamwork Effectiveness in Adolscent Mental Health Services]**
Participant information sheet IRAS version 3.5, dated April 1st 2014

This study has been approved by the UCL Research Ethics Committee.

(Project ID Number): 5378/001

Thank you for your interest in taking part in this research. Before you agree to take part, the person organising the research must explain the project to you.

If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you to decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time. Another signed copy will be held by the researcher.

Participant's Statement	**Please tick or initial**
I	
• have read the notes written above and the Information Sheet, and understand what the study involves.	☐
• understand that if I decide at any time that I no longer wish to take part in this project, I can notify the researchers involved and withdraw immediately.	☐
• Understand that non participation or withdrawal from the study will not affect my employment	☐
• consent to the processing of my personal information for the purposes of this research study.	☐
• understand that such information will be treated as strictly confidential and handled in accordance with the provisions of the Data Protection Act 1998.	☐
• agree that the research project named above has been explained to me to my satisfaction and I agree to take part in this study.	☐
• understand that the information I have submitted will be published as a report and I will be sent a copy. Confidentiality and anonymity will be maintained and it will not be possible to identify me from any publications.	☐
• agree that my non-personal research data may be used by others for future research. I am assured that the confidentiality of my personal data will be upheld through the removal of identifiers.	☐

Participant's Statement:

I

_____

agree that the research project named above has been explained to me to my satisfaction. I agree to take part in the research and my participation is voluntary. I have read both the notes written above and the Information Sheet about the project, and understand what the research project involves.

Signed **Date**

Researcher's Statement:

I

_____

Confirm that I have carefully explained the nature, demands and any foreseeable risks (where applicable) of the proposed research to the participant.

Signed **Date**

Appendix F: Tem Climate Inventory (Anderson & West, 1998)

Appendix G: General Health Questionnaire 12 item scale (Goldberg & Hillier, 1979)

Appendix H: Coping Responses Inventory (Moos, 1993)

Appendix I: Preliminary analysis for HLM (Hierarchical Linear Modelling)

HLM, using maximum likelihood estimation (-2 Log Likelihood), was conducted to estimate the effects of the organizational framework and team on the perceived team effectiveness, controlling for individual-level covariates.

Introducing random intercepts did not improve the fixed model as indicated by difference in -2 Log Likelihood, $\chi 2$ change = 3.562 > 3.841 ($p<.05$, df= 1). When introducing random predictors the model could not be computed by the database. Thus due to a lack of power the optimum model that could be computed was a random intercept model with fixed predictors. Therefore homogenous conceptualization of the relationship between predictors and TCI across the teams.