

‘Psyched up but not psyched out’: An
implicit theory study of work team anxiety

By

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2017

Supervisor: Prof. J. Maltby

A thesis submitted in part-fulfilment of the requirements for the degree of PsyD of the
University of Leicester, Department of Neuroscience, Psychology and Behaviour

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Part 1: Literature Review

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1. Introduction

Teams are vitally important to organizations because they are the primary means through which work is delivered and organizational performance is achieved (Guzzo & Dickson, 1996; Chen, Donahue & Klimoski, 2004; Wilson, Goodman & Cronin, 2007; Mathieu, Maynard, Rapp & Gilson, 2008; Sharma, Roychowdhury & Verma, 2009; DeChurch & Mesmer-Magnus, 2010). There are numerous factors that impact team performance, including teams becoming dysfunctional. While there can be different sources of dysfunction, one cause of it is the presence of excessive amounts of anxiety in work teams (Thornton, 2010). Anxiety exists at both individual and whole team levels. Individual anxiety, and how to assess it, is well documented in the psychological literature but it is generally old, outdated and insufficiently clear. Far less is known about anxiety in work teams, however, where it remains a vague and slippery subject, with no operational measure in existence. This is unhelpful to teams wishing to balance the amount of anxiety for success. With an increasing emphasis on teams in organizations (Mann, 2015), and practitioners looking for tools to support them in this growing area of work (Offerman and Spiros, 2001), there are clear gaps to fill in our theoretical understanding of the team anxiety construct and in the provision of a robust means of assessing anxiety in teams in an occupational setting. The aim of this present study is, therefore, to develop our understanding, and a possible measure, of team anxiety.

This paper is structured around the following themes:

1. Why teams are important to organizational performance
2. How anxiety affects team performance
3. What is team anxiety?
 - Organizational responses to team anxiety

4. Current measures of anxiety
 - Assessing anxiety in others
5. Assessing team anxiety in teams at work

Individual and team anxiety are both defined and linkages between the two made. The focus of this study is *not* to show that anxiety exists in teams. This is widely accepted and supported in the literature. This study aims to start to fill the gap left in the prevailing texts about how to identify and assess anxiety in work teams. To the best of our knowledge, this is the first study to examine the team anxiety construct in workplace teams, starting with defining what team anxiety is, then creating a construct, and suitable measures, using team members. This model of team anxiety can then be tested with intact teams. Rosenthal and Rosnow (1991) tell us that a clearer definition of a construct is a pre-requisite to testing ideas about it effectively. Advancing our understanding of the team anxiety phenomenon would help move us closer towards this position more usefully. Ultimately, considering the limitations of previous research, the goal of future research, building on the present study, is to develop a psychometrically sound self-report measure of anxiety in intact teams for use with a wide range of teams and workplace settings that would be valid and useful to practitioners and teams.

2. Literature review

This review will critically evaluate the literature related to team anxiety and focus on how we assess anxiety in teams. The concluding remarks will sum up our understanding of team anxiety and the implications for developing a possible measure.

2.1 Search procedure

As the initial search revealed little research output on team anxiety and in workplace setting domains, the search criteria were widened to include other contexts. This revealed useful, related material in other settings including sports, clinical practice, academia, (hospital) operations, job interviews and others.

Key words: The following key words were used, in various combinations, as the search criteria to gather prevailing literature to review: anxiety, fear, threat, teams, groups, measurement, assessment and occupational.

Sources: Key databases were sought for peer-reviewed, empirically grounded journal articles to provide an up-to-date overview of the literature. As team anxiety spans the fields of both psychology and business, databases from subjects were interrogated including:

- Psychology: Web of Science, PsychoINFO/ EBSCOHOST, Health and Psychosocial Instruments in OVID, PsychARTICLES, Scopus, and
- Business: Business Source Premier, Emerald Full text.

Relevance: Only sources and materials within scope and in the key word search were used and references of a high academic standing considered. To ensure currency, search terms were limited to the past 20 years (1996–2016). Where articles within these dates revealed earlier, potentially useful, material, further searches were conducted on key authors, e.g. Bion and Wheelan. Given that a theory of team anxiety

appears not to exist, past research on general anxiety was considered. This paper will start by considering why teams are important to organizations.

3. Why teams are important to organizational performance

A team is a particular type of group in which people work interdependently to accomplish a shared goal (Levi, 2014). A team is distinct from a work group that does not share the need to work dependently. Organizations have restructured using teams as the core integrator of different parts of their organizations (Mohrman, Cohen & Mohrman, 1995), and teams are now a key component of organizational life and form the basic unit of work accomplishment (Chen et al., 2004; Mathieu, et al., 2008; DeChurch & Mesmer-Magnus, 2010). Two decades ago, studies suggested 85% of companies with 100+ employees were using some form of work teams (Cohen & Bailey, 1997), and organizations' use of teams has expanded rapidly since (Levi, 2014). This ascendancy of teams in the workplace has been driven by global competition and an emphasis on innovation (Kozlowski & Bell, 2003, cited in O'Neill & Allen, 2014; Sharma et al., 2009). This growth looks set to continue unabated (Mann, 2015).

Maximizing productivity and performance is a key focus for most organizations (Castano, Watts & Tekleab, 2013). The transition to the use of work teams is considered necessary to help corporations remain competitive (Gwynne, 1990) and is one of the most effective interventions for improving organizational performance and effectiveness (Guzzo & Dickson, 1996; Wilson et al., 2007). As well as increasing the financial success of companies, team working improves personnel issues such as reducing labour turnover and absenteeism (Levi, 2014). When they

work well, teams can yield more than the sum of individual team members due to coordinated efforts and streamlined work processes. Efficiency is enhanced and duplication of effort minimized. Teams are formed from the collaborative and coordinated endeavours of team members. Through their structure, they work towards a shared objective of pursuing organizational goals (Sharma et al., 2009), thereby helping the organization perform. Katzenbach and Smith (1993) concentrate on performance in their definition of teamwork. Research has shown that the use of teams has led to looked-for performance improvements across a range of organizations and sectors (e.g. Canon-Bowers, Oser & Flanagan, 1992; Wellins, Byham & Dixon, 1994; Banker, Lee, Potter & Srinivasan, 1996). In short, organizations function on teamwork and deliver organizational performance – teams are, therefore, vital to their success (Sharma et al., 2009).

4. How anxiety impacts team performance

Teams are the most important work unit in modern organizations (Hackman, 2002), and people spend a significant amount of their working life operating as part of a team or group. As such, it is conventionally believed that team members should work well together (i.e. function effectively) to enable teams to perform. Despite this, they often do not (e.g. Hackman, 1990) and even teams of dedicated skilled professionals who understand the value of teamwork are sometimes dysfunctional (Sharma et al., 2009). Through this dysfunction, organizational performance suffers (Smith & Nelson, 2005). There can be many sources of dysfunction in a team. Based on his seminal text, ‘The Five Dysfunctions of a Team’, Lencioni (2002) lists them as the ‘absence of trust’ (an unwillingness to be vulnerable within the group); ‘fear of conflict’ (seeking artificial harmony over constructive passionate debate); a ‘lack of

commitment' (e.g. to group decisions that creates ambiguity across the organization); an 'avoidance of accountability' (challenging counterproductive peer behaviour), and an 'inattention to results' (focusing on personal agendas over team success).

Adding to the causes of team dysfunction, Thornton (2010), in a chapter entitled 'Groups that do not work well', tells us that anxiety is a significant reason why teams do not function successfully, and that it impedes performance. This is not surprising since anxiety is increasingly seen as playing a key role in inter-group relationships (Brown & Hewstone, 2005; Pettigrew & Tropp, 2008; Stephan, 2014; Stephan et al., 2002, cited in West, Pearson & Stern, 2014). By their very composition, teams include multiple relationships and require their members to have the skills to work together as a group (Levi, 2014).

Anxiety has featured prominently in the personality and abnormal psychology and anxiety disorder literature (Spielberger, 1972; Gray, McCullagh & Petros, 2016) and has variously been described as a stimulus, a response, a drive, a motive and a trait (Endler, Edwards & Vitelli, 1991, cited in McCarthy & Goffin, 2004). Anxiety is a response to perceived danger. Despite the plethora of definitions, and that it is an everyday word, it remains poorly understood and is still a highly subjective concept for many, with even one of its earliest proponents, Freud (1917/1963, p. 393), calling it a 'riddle'. Much of the literature focuses on individuals, not teams, and is disparate and unstructured. Although theories of anxiety have changed over time, there remains no integrated theory of anxiety thus adding to its complexity and ease of understanding.

Anxiety is relevant to work teams because of the links between it and performance (e.g. Thornton, 2010). In the competitive sporting world, for example, studies have found that the higher an athlete's (competitive) anxiety, the poorer the performance (Raglin & Hanin, 2000), or, as Corcoran (1989, p. 683) posits, '...coaches need to monitor the anxiety level of their team: if the anxiety level is too high, then performance will suffer.'. Conversely, a classic study by Yerkes and Dodson (1908) demonstrated that moderate levels of anxiety actually improve human performance. While the evidence is somewhat contradictory, more recent studies seem to show that too much anxiety weakens performance – but so does too little. For example, LeDoux (2015) tells us that too little anxiety can lead to a lack of motivation; whereas too much anxiety can result in impairment. Without anxiety, 'the performance of athletes, entertainers, executives, artisans, and students would suffer; creativity would diminish...' (Stossel, 2014, p. 5). In other words, organizations need some anxiety to perform well.

Anxiety also affects individual and thereby team health. If people are unwell, or absent from work because of this, they either do not perform at their best or will be off work and unable to contribute to the team at all. Research has shown that anxiety can have a real impact on individuals, with decreased physical health and psychological wellbeing (Olajunji, Cisler & Tolin, 2007). Simply: 'Left unchecked, it can become detrimental' (Jacobs, 2015, p. 6). Anxiety symptoms can manifest in different physical forms and there are long-term effects of unresolved anxiety that can result in acute stress (de Board, 2000). Anxiety is not limited to an isolated minority. One study by the Rotman School of Management in Toronto (McCarthy, Trougakos & Cheng, 2015) highlighted that 41% of employees across a range of sectors reported high levels of anxiety. The human cost is likely to rise, with feelings of anxiety an

increasingly pervasive problem in today's fast-paced and stress-provoking work environment (Yuen, 1998). People working in an organization cannot remain unaffected by such demanding working conditions, with increased anxiety being cited as one outcome (Srivastava, 2011), and it is factors like the psychology of team members that have been shown to be related to team dysfunction (Sharma et al., 2009). Put simply, organizations are unlikely to be able to recruit and retain the individual team members they need if anxiety is too great, which will not give them the team resources needed to achieve their goals.

Anxiety can also affect organizational health adversely. According to statistics produced by the UK's Health and Safety Executive (HSE), work-related stress (which includes anxiety within the HSE's definition) caused workers in Great Britain to lose 9.9 million working days in 2014/15 (HSE Labour Force Survey, 2014/15). On average, each person suffering from work-related stress and anxiety took 23 lost days off work per case (HSE Labour Force Survey, 2014/15). This is one of the highest average days lost among the recognized health complaints (Buckley, 2013). While the HSE unhelpfully classifies anxiety and stress together, the impact is significant nonetheless. In terms of financial impact, estimated costs of mental health problems (i.e. anxiety, depression and stress-related conditions) in the UK range between £70–£100 billion each year (Davies, 2013, cited in Metha, 2013). Anxiety is therefore highly relevant to organizations due to the monetary costs of funding sickness absence, lost productivity with people being away from work and decreased organizational performance.

5. What is team anxiety?

Individual anxiety has already been described and been shown to be far from clear and straightforward to conceptualize precisely.

The literature on team anxiety dates back to the early 1960s (e.g. Bion, 1961), and, while this has been influential in the field, it is now out-dated. There is only one mention of team anxiety in recent literature (Verbeke & Bagozzi, 2000, cited in Akgun, Byrne, Lynn & Keskin, 2007). While this definition refers to the social interplay between two, or more, individuals, it is more an individual definition of anxiety rather than one belonging to a team as a whole and, as such, does not advance our understanding of the team anxiety phenomenon usefully.

Wilfred Bion (1962) linked knowledge of anxiety to groups and group functioning. He explained that a group, or team, acts through members' behaviour being triggered by their internal anxiety. He described three typical responses to an anxious situation: *modulate* our internal thinking to adapt to the external world; *modify* (the situation – or how we think about it – to fit it into how we would like the world to be); or *evade* (through ignoring the situation completely). Based upon extensive observational studies, Bion grouped these responses into what he called three 'basic assumptions' that could hinder the work of a group or team (1962). These assumptions – known as 'fight-flight', 'dependency' and 'pairing' – are connected to the anxiety present in a team because they are the group's way of managing its apprehension. Although now old, Bion's work on anxiety in teams remains influential and attempts have been made to link his basic assumptions with ways of measuring team anxiety (e.g. Wheelan's (1994) observational method).

Influenced by Bion, Hirschorn (1990) showed that anxiety could operate at a whole team level. Hirschorn describes a series of inter-connected processes that form, what he called, an anxiety chain, with one team member's anxiety creating a 'chain' link, spreading anxiety to other team members. Through this, Hirschorn showed that anxiety could impact more than a single individual although he stopped short of identifying a way of measuring it usefully. Irrespective, his work informs us of the presence of anxiety in a whole team and leaves us with the opportunity to assess it at a team level of analysis. With perhaps the notable exceptions of Bion (1962) and Hirschorn (1990), studies on anxiety to date have not extended into the organizational domain, where there continues to be a severe lack of research on team anxiety in a workplace setting and how to assess it.

5.1 Organizational responses to team anxiety

It is often the recognition that a team is not functioning as well as it could (whether this recognition comes from within or outside of the team) that triggers a call for help. This cry for help is increasingly met by a team coach in today's modern business environment (Mann, 2015). Thornton (2010, p. 216) tells us: '...managing anxiety is the central component a team coach must deal with when coaching a group...'. The first task for a coach is to identify anxiety in a team before helping it to function optimally. Those practitioners working with teams therefore need to be equipped to identify team anxiety and deal with its complexities. In their study of practitioners who work with teams, Offerman and Spiros (2001) cited 176 (72%) of respondents as using some form of psychological tests and/or assessment tool in their work. Of those tools cited, none measure team anxiety. This is not surprising since no operational measure of team anxiety exists.

In summary, teams are dysfunctional due to anxiety (among other factors) and this impacts organizational performance and individual health. Practitioners use tools for their work with teams but most of these are individually oriented and none measure intact teams and their anxiety. This presents a clear gap in the practitioner assessment toolkit to assess anxiety in a whole team.

6. Current measures of anxiety

We know how to assess anxiety in individuals and numerous measures exist for this purpose (Caballo, Salazar, Iruiria, Arias & Hofman, 2010), including:

- Social Phobia Inventory (SPIN), Connor, Davidson, Churchill, Sherwood, Foa, & Weisler (2000) – this 17-item, self-report assessment scale is designed to measure anxiety in social, rather than occupational, settings and is therefore not applicable to work team assessment;
- Liebowitz Social Anxiety Scale (LSAS), Liebowitz, 1987 – this tool similarly assesses social anxiety and is not applicable to measuring team anxiety;
- Social and Phobia and Anxiety Inventory (SPAI), Turner, Beidel, Dancu, & Stanley, 1989 – this 45-item test assesses specific somatic symptoms, cognitions and behaviours to measure social anxiety and fear. SPAI results are particularly useful when distinguishing between panic disorder, agoraphobia and social phobia. They are less applicable to teams with non-clinical anxiety in an occupational setting;
- Brief Social Phobia Scale (BSPS), Davidson, Potts, Richichi, Ford, Krishnan, Smith, 1991 – the eighteen items in the BSPS assess social phobia symptoms using an observer-rated scale and three subscales (fear, avoidance and physiological arousal) combined into an overall score. Again, this individual measure is not applicable to assess workplace team anxiety;

- Social Interaction Anxiety Scale (SIAS), Mattick and Clarke, 1998 – the SIAS is a self-report scale, used in clinical settings, that measures distress when meeting and interacting with others. It measures fear or anxiety where the individual is open to scrutiny by others. Though seemingly applicable to individuals in teams, it measures fear of interacting in *social* situations and does not refer to being apprehensive in public or being concerned about others' opinions generally; and
- Self-Statements During Public Speaking Scale, Hofmann and Di Bartolo, 2000 – as an individual measure when a person is speaking publically, it is not suitable for team use.

Another current measure of anxiety is the 40-item, self-report, State-Trait Anxiety Inventory (STAI), developed by Spielberger et al (1983). As the name indicates, this tool measures both state and trait anxiety, with higher STAI scores indicating higher levels of anxiety. This is significant because team members with high levels of trait anxiety could, for example, be more readily affected by an anxiety-inciting team event than team members with lower levels of trait anxiety. This pre-existing level of trait anxiety could also affect how team members react to anxiety-provoking situations because it may put them closer to their coping threshold. Conversely, low levels of trait anxiety could cushion a team member from the emotional contagion that could spread throughout a team when higher levels of team anxiety are experienced.

The downside of the STAI is that the item descriptors are very generic and lack contextual specificity for teams operating in the workplace. This aside, understanding an individual team member's anxiety traits could be a useful precursor to understanding anxiety, and its effects, in a whole team.

There are also links between individual anxiety and the ‘Big Five’ personality traits such as those contained in Costa and McCrae’s (1992) and McCrae et al’s (1992; 2005) Five-Factor NEO model (FFM) or inventory. One of these traits, ‘Neuroticism’, measures anxiety, hostility and vulnerability to stress, among others. One example of a FFM item to gauge anxiety is “I am much more anxious than most people.” (Strack, 2006). As we saw with Spielberger et al’s (1983) STAI, people with high levels of neuroticism are likely to experience feelings of anxiety, respond less well to stressors and are more likely to view everyday situations as threatening. This work is noteworthy because some people could possess trait anxiety, which is different from a team level of anxiety under discussion here. Understanding the difference between anxiety that resides within the individual and a team level anxiety therefore seems important.

As no useful occupational measure of team anxiety exists, it is worthwhile briefly reviewing these individual measures of anxiety to ascertain what may be learned to inform the development of team anxiety. An over-arching theme across all of these measures is that they are designed to measure anxiety in individuals, not teams, and these are very different entities to assess. Many of these measures are situation-specific, and make a useful contribution in that regard. There are, however, both over-arching, as well as specific, criticisms to all these tools, including:

- Out of date: Some tools that remain in use today (e.g. the Fear of Negative Evaluation (FNE), Watson and Friend’s (1969) Social Avoidance and Distress Older scale (SAD) and Spielberger’s (1980) Test Anxiety Inventory (TAI)) have not been updated since publication (cited in Brooks, Alshafei & Taylor, 2015).

Referring to research by Szafranski, Barrera and Norton (2012), Brooks et al (2015) inform us that the norms printed in 1980 have changed and that the context for test anxiety has also altered over time. Although they were deemed fit for purpose at the time they were created, these tools are failing to stay up to date with the changing times from both currency and face validity perspectives. It is likely that early measures of anxiety in the workplace, as well as the nature of teams, have changed over time too.

- Item construction: Most of the items in these tools were not produced through empirical means, and were compounded by newer measures being built on the unsound foundations of previous ones, with factor structures that vary considerably and lack robustness (Caballo et al., 2010). For example, the Social Phobia Scale (SPS) and the Social Interaction Anxiety Scale (SIAS) were both created from a pool of 164 items, which, in turn, were by-products of previous surveys and inventories (Mattick & Clarke, 1998). We cannot, therefore, be confident in their scientific underpinnings. Furthermore, many of the items (e.g. No. 289. 'Expressing to a person of the opposite sex that I love them.') are atheoretical to the concept of team anxiety.
- Factor extraction: The number and type of factors that make up the most prevalent instruments for assessing social anxiety vary considerably (Caballo et al., 2010), casting doubt on which factors truly measure anxiety.
- Content validity: The Beck Anxiety Inventory (BAI; Beck, Epstein, Brown & Steer, 1988) is one of the most widely used measures of anxiety and a popular tool among clinicians (Gray et al., 2016). Of its 21 items designed to assess the presence and severity of anxiety symptoms in clinical settings, many seem inappropriate for teams in the workplace. For example, item 16 refers to a 'fear of

dying’; item 19 ‘fainting’. As team anxiety is concerned with anxiety in a work setting, many of these items seem unlikely to measure the intended construct and the BAI therefore falls short on content validity grounds. Beyond being untested in an occupational setting, it was only validated using a White race sample and therefore has unexamined cross-cultural applications. This is important in ethnically, culturally and geographically diverse global teams (Neeley, 2015).

- Structural/Construct validity: Caballo and colleagues sought to develop a new social anxiety questionnaire that overcame shortcomings of earlier anxiety assessment tools and produced a 72-item abbreviated measure (Caballo et al., 2010). As with the BAI, only a few (12) of these new items appear relevant for use in an organizational setting (e.g. item 44 ‘being criticized’; item 456 ‘being told off by a superior or person in authority’) leaving this an incomplete means of assessing team anxiety at work. Furthermore, while the pool of participants was large (13,397), it was limited to a single region (Latin America) and consisted solely of student, rather than working, populations, making the findings more difficult to generalize and reducing their predictive qualities.
- Timing of assessment: Observing team members’ behaviour aside, earlier studies have concentrated on means of measuring affective information either directly (e.g. Philpot & Douilliez, 2005) or indirectly (e.g. Yoon & Zinbarg, 2008) but unfortunately these proved insufficiently reliable because they were shown to measure threat detection rather than interpretation *per se*. This underlines the challenge of assessing anxiety at the point at which it occurs, which is far from easy.
- Context: There are several measures available to assess anxiety in situation-specific, anxiety-provoking scenarios from a trait perspective, e.g. Martens’

SCAT in competitive sport (1977); test taking in academia (Arvey, Strickland, Drauden & Martin, 1990); public speaking anxiety (Bippus & Daly, 1999, cited in McCarthy & Goffin, 2004); and fear of negative evaluation (FNE) (Watson & Friend, 1969) among others. Advantages of situation-specific measures are that they have been related to lower levels of error and higher levels of predictive and structural validity than more general measures (Mandler & Sarason, 1952; Schmitt, Ryan, Stierwalt & Powell, 1995, cited in McCarthy & Goffin, 2004). The difficulty remains of being able to identify a range of specific situations when teams might be anxious and develop an appropriate measure of anxiety in this person-situation environment. A suitable starting point seems to be in identifying the ways in which teams work in a given setting and how to make them more effective (Sundstrom, de Meuse & Futrell, 1990; Cohen, 1993). Sundstrom, McIntyre, Halfhill & Richards (2000) argue that the first step is to comprehend the determinants of work team processes and performance before examining the contextual setting. Developing a theory of team would be a useful precursor in our search for a clearer team anxiety construct.

7. Assessing team anxiety in others

Research has highlighted that it is difficult for individuals to assess their own performance accurately (Schraw, Potenza & Nebelsick-Gullet, 1993; Sitzmann, Ely, Brown, Bauer, 2010; Aguinis, Joo & Gottfredson, 2011). Given this, examining our ability to assess anxiety in others should prove useful to assessing anxiety in teams. The sports world had found ways of measuring anxiety in players in competitive situations that distinguished anxiety from other behaviours and athletic ability (e.g. the Taylor Manifest Anxiety Scale (Taylor, 1953)). The Taylor test's strength lies in

that it was designed to measure anxiety in competitive situations, which is useful for a work team facing analogous challenges. Its discriminant validity has been questioned, however, with the Taylor scale measuring generalized neurotic anxiety rather than non-clinical anxiety and the measure is also somewhat outdated for use in the modern workplace.

Instead, Corcoran used Martens' (1977) more recent (although still relatively old) Sport Competition Anxiety Test (SCAT) as a measure of trait anxiety (Spielberger, 1966). This test is one that characterizes an individual's behaviours and cognitions across a range of situations – in this case, sports.

Previous research (e.g. Martens, 1977; Martens, Rivkin & Burton, 1980) had suggested that sports coaches were, at best, inconsistent, and usually poor, at predicting their players' levels of anxiety, and Corcoran (1989) was interested in the predictive accuracy of coaches to be able to identify anxiety in fellow teammates or by sports coaches. He found that while sports coaches were skilled at assessing sports-related attitudes and behaviours, they were far less reliable at assessing competitive anxiety in their team members. He also found that more inexperienced players experienced more anxiety but this was not observable by teammates or coaches. This is not entirely unsurprising because, while some aspects of anxiety are well documented in the literature, the role of how we perceive anxiety in others and its effects has received substantially less theoretical and empirical attention (West et al., 2014). Interestingly, his findings were unrelated to coaches' global ability to assess others' ability, which points towards the nebulous nature of anxiety. There is 'some evidence that anxiety is unique with respect to coaches' inability to notice it in players'. (Corcoran, 1989, p.683). Corcoran suggests areas for further research

including whether coaches may be more accurate in rating an entire team's anxiety level. In other words, it may not be important for coaches to differentiate the level of anxiety of players individually from each other, suggesting a whole team assessment could be more valuable. A chief conclusion from Corcoran's work is the unreliability of gauging anxiety in teams, which points to the need for a valid and reliable team anxiety tool at a whole team level of measurement.

8. Assessing anxiety in teams at work

Although most measures of anxiety assess the individual, there have been some attempts to identify anxiety in teams at work. These are worthwhile exploring to see what can be learned. Wheelan, Davidson & Tiliin (2003) devised the Group Development Observation System (GDOS) based on earlier work, including by Bion (1961), Thelen (1954), and Stock and Thelen (1958). As the name suggests, it relies heavily on observational methods to recognize anxiety. A researcher or consultant using the GDOS would observe a team at work, then record, audiotape or hand-write *verbatim* comments made by every team member that speaks. The researcher would then transcribe the recorded material before classifying statements made against pre-determined categories based on Bion's (1962) basic assumptions.

Melamed used the Observer Rating Scale of Anxiety consisting of 29 categories of verbal and motor behaviours identified as being manifestations of anxiety during observations (Melamed, Meyer, Gee & Soule, 1976). At 3-minute intervals, an observer notes the occurrence of each of the behaviours over a total period of 9 minutes of observed time. This method is designed to be used only for the stated time, and so a particular interaction of high anxiety could occur between the 3-

minute intervals or fall outside of the 9-minute observed time period. This approach is documented as possessing good inter-observer reliability although validation data is unavailable, and this process is also subject to the limitations of observer bias, in what they see, what they record and how they interpret this material. Furthermore, while thorough, these observational methods are also extremely time- and labour-intensive and the lengthy process of analysing the data subsequently would delay – and may even miss – the opportunity to work with the team at the moment they most need support.

Observational methods rely on behavioural clues to others' emotional expressions to help us identify inner anxiety. In his seminal work 'Experiences in Groups and other papers' Bion (1961, p. 163) told us groups act '...whenever the pressure of anxiety becomes too great...'. These defensive behaviours can, therefore, be a useful pointer to the presence of anxiety and is otherwise known as 'signal' anxiety. In describing her measurement tool for pre-operative anxiety in young children, Kain et al. (1995, p. 203) described their anxious behaviour: 'Many children look scared, become agitated, breathe deeply, tremble, stop talking or playing, and may start to cry...'. Costa and McCrae (1992) report similar anxiety-driven behaviours with anxious individuals being apprehensive, fearful, worrying, nervous, and tense. There are numerous examples of similar group or team behaviours that indicate the presence of anxiety in work teams (e.g. Kets de Vries, 2007; Thornton, 2010; Woods, 2014). The difficulty with relying upon anxiety-indicating behaviour is that affective information and others' corresponding interpretation of it are not consciously accessible to observers (Gebhardt & Mitte, 2014) and are, therefore, then subject to an observer's selective attention, and filtering and interpretation biases.

Indeed, it was Woods' (2014) observational study of two work teams (one in children's services in the UK; the other a senior management team in a financial services organisation in the Baltic States), and the difficulties encountered in attributing observations specifically to anxiety (compared with other phenomena) and the length of time and potential methodological flaws in this approach, that prompted the search for a better way of identifying team anxiety more accurately in this present study.

9. Conclusions

The literature has shown individual anxiety – a reaction to perceived danger - to be imprecise and unwieldy conceptually, and not clearly, or easily, defined or measured in teams. Given this, and as far as is possible, team anxiety is defined here as:

- Consisting of a mixture of both trait and state anxiety (Costa and McCrae, 1992; Spielberger et al, 1983) in the team i.e. the whole team may already be anxious (through trait anxiety), and the amount of anxiety experienced may change (increase or decrease) based upon how the team experiences events or occurrences (state anxiety);
- Anxiety existing at the whole team level e.g. through sufficient numbers of individual team members in a team being anxious or that the sum amount of anxiety present in a team impacts the whole team (positively or negatively) such that the whole team could be said to be anxious;
- 2-directional i.e. anxiety that starts in individual team members and spreads across the team (as described in Hirschorn's (1990) anxiety 'chain') or is activated at the whole team level by an anxiety-provoking team event, which can trigger anxiety in individual team members, and

- too much or too little team anxiety can affect team performance adversely.

Beyond definitions of team anxiety, we know that anxiety matters. The literature is clear that anxiety, when left unchecked, can have a detrimental effect on individual's health (Jacobs, 2015) and, at the same time, is necessary to facilitate effective performance (LeDoux, 2015). The amount of anxiety present, what creates it, and how teams, and their members, react to it is all material – and yet remain insufficiently clear at present. For example, we do not know how much team anxiety is needed by a team to succeed. We similarly do not know what might increase or decrease team anxiety and how teams might respond to these enhancers or inhibitors and related interventions introduced by team practitioners.

Spielberger's (1983) work shows individual anxiety to exist as both a trait and state. This has implications for the pre-existence of anxiety in individual team members – and therefore teams - and their potential to be affected by work-place stressors. For example, if an individual is already anxious (due to trait anxiety), it is possible they could be affected further by (state) anxiety in other team members (as we saw with Hirschorn's (1990) anxiety chain), or by an anxiety-activating event itself – or both. Trait anxiety could increase the starting level of an individual's anxiety and push a team member over their threshold to cope with the amount of anxiety present in a team, or the existence of anxiety in individual team members could act as a primer for team anxiety contagion. It is proposed that team anxiety can be two-directional. In other words, anxiety can start with individual team members and spread, affecting the whole team, or a whole team can experience anxiety that, in turn, contributes to levels of individual anxiety. These factors are significant because

team anxiety (among other factors) can contribute to team dysfunction, which can impact team and organizational performance adversely (Sharma et al, 2009).

Teams are the mainstay of organizations and key to their performance (Chen et al., 2004; Mathieu, et al., 2008; DeChurch & Mesmer-Magnus, 2010). Teams matter to organizations, and anxiety also matters to teams. What is important is the degree of anxiety and its appropriateness for a team in any given work situation. Gauging both in work teams has proved challenging: self-assessments are skewed and others' assessments (e.g. coaches) unreliable (Corcoran, 1989). Before creating a measure for team anxiety, it is important to define it clearly (Rosenthal and Rosnow, 1991). This has proved far from straightforward given the opaqueness of the literature on anxiety.

There are numerous measures of anxiety available although these are generally designed to assess anxiety in individuals rather than in intact teams and all seem unsound with varying methodological and psychometric difficulties, let alone practical utility with teams. These shortcomings range from being out of date to lacking in content validity because they were designed for use in clinical, rather than occupational, settings. Observational methods (some based on Bion's earlier group work (1962)) appear to have some value in assessing team anxiety although '...observers experience difficulty judging internally oriented psychological traits.' (Hayes & Dunning, 1997, cited in McCarthy & Goffin, 2004, p. 628). Observational methods are also labour-intensive, time-consuming and passive, and risk missing the opportunity to help a team more dynamically at the time it needs it.

There are real limitations to existing ways of measuring anxiety. The literature on anxiety that underpins these measures also does not help because it appears disparate, subjective, unstructured and outdated. In summary, neither existing texts, nor tests, help us work with anxiety in a practically useful way. Given the prevalence of team working (Chen et al., 2004; Boni, Weingart & Evenson, 2009), and the limitations highlighted of current means of assessing team anxiety, there appears to be a need to find a clearer definition of, and measure for, team anxiety.

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‘Psyched up but not psyched out’: An
implicit theory study of work team anxiety

Part 2: Research Report

By

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2017

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A thesis submitted in part-fulfilment of the requirements for the degree of PsyD of the
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1. Introduction

Teams are the basic unit of work accomplishment (DeChurch & Mesmer-Magnus, 2010; Chen, Donahue & Klimoski, 2004; Mathieu, Maynard, Rapp & Gilson, 2008) and one of the most effective interventions for improving effectiveness and organizational performance (Guzzo & Dickson, 1996; Wilson, Goodman & Cronin, 2007). If teams perform, so do organizations (Katzenbach & Smith, 1993; Sharma, Roychowdhury & Verma, 2009). It is not surprising that their use in the workplace has grown considerably in recent years driven by a need to perform against strong global competition (Kozlowski & Bell, 2003; Levi, 2014). This growth looks set to continue unabated (Mann, 2013; Mann, 2016), and along with it the need to ensure they continue to perform.

Teams can become dysfunctional, however, which can stop them from performing. A principal conclusion from the literature is that one source of this dysfunction, and a reason why teams often do not work as well as they should, or could, is due to the presence of anxiety (e.g. Thornton, 2010). Thornton (2010) draws on four years' training as a Group Analyst, approaching 30 years' experiential evidence, and her writing in the field in supporting this claim. Yet anxiety is multi-dimensional, and a far from straightforward concept to grasp, with wide-ranging and overlapping views and ideas about it. It can be hard to reach and hard to interpret clearly. Despite this confusing picture, there is an understanding that anxiety matters and, if left untended, it can increase and have an adverse impact on work teams (Raglin & Hanin, 2000). Equally, anxiety can provide an invaluable stimulant to boost performance (Yerkes & Dodson, 1908; LeDoux, 2015; Stossel, 2014). Like teams, anxiety matters, and organizations need anxiety to perform. It is important to be able to measure anxiety accurately because of these team-

performance links and to help a team gauge whether it has sufficient anxiety for success – but not a surfeit of it.

The literature highlights the challenges associated with recognizing anxiety in team members, and attendant issues of measuring it accurately (e.g. Corcoran, 1989). Many means of measuring anxiety exist and these tend to be individually, rather than team, oriented (Caballo, Salazar, Hofman, Arias & Inurtia, 2015). Unfortunately, these measures are psychometrically imperfect. These limitations range from being out of date to lacking in content validity because they were designed for use in clinical, rather than occupational, settings, among others. As an alternative, researchers have used observational studies to indicate anxiety in work teams although these have proven time-consuming, labour-intensive and clumsy in application (Woods, 2014). Self-assessments are notoriously unreliable and others' assessments have also been found to be untrustworthy (Corcoran, 1989). No reliable means of measuring anxiety in teams exists *per se* leaving a gap to support practitioners charged with helping teams perform.

A precursor to measuring team anxiety is to be able to define it more clearly (Rosenthal & Rosnow, 1991) and, as has been discussed, the literature is far from conclusive. While anxiety is an everyday word, individuals have a tendency to either be unable to articulate it succinctly, or deny its existence due to socially desirable explanations of what constitutes an effective team. The prevailing literature and academic studies have proved unhelpful in enabling us to understand a slippery subject. Based on the prevailing literature, and as far as was possible in light of its vagueness, team anxiety is defined as:

- Consisting of a mixture of both trait and state anxiety (Costa and McCrae, 1992; Spielberger et al, 1983) in the team i.e. the whole team may already be anxious (through trait anxiety), and the amount of anxiety experienced may change (increase or decrease) based upon how the team experiences events or occurrences (state anxiety);
- Anxiety existing at the whole team level e.g. through sufficient numbers of individual team members in a team being anxious or that the sum amount of anxiety present in a team impacts the whole team (positively or negatively) such that the whole team could be said to be anxious;
- 2-directional i.e. anxiety that starts in individual team members and spreads across the team (as described in Hirschorn's (1990) anxiety 'chain') or is activated at the whole team level by an anxiety-provoking team event, which can trigger anxiety in individual team members, and
- too much or too little team anxiety can affect team performance adversely.

In view of the opaqueness of the anxiety literature and the scarcity of adequate research, an alternative approach is needed – one that allows us to comprehend anxiety from a team's perspective. The focus in this study is, therefore, on attributions that people at work make towards the characteristics of teams exhibiting anxiety, and an implicit theory approach could provide us with a potentially useful means of advancing our understanding.

Maltby defines implicit theories as personal interpretations, constructions and beliefs about phenomena that exist in peoples' minds (2010). They are also known as folk

theories – commonplace ideas that surround a particular subject (Sternberg, Conway, Ketron & Bernstein, 1981; Sternberg, 2001, cited in Maltby, et al., 2008). Sternberg (2001) (*op cit*) provides us with several explanations regarding the importance of implicit theories: given their everyday use, they can help us to comprehend day-to-day life. Implicit theories can also lay the foundations for the subsequent development of more formal theories for researchers to investigate. An implicit theory approach allows us to bring together disparate ideas into an overall framework, for further development. This is important for new constructs, such as team anxiety, because it provides some cohesion to many overlapping notions and opinions. Implicit theories are also flexible, which provides the freedom to modify or extend them if they are considered incomplete. Implicit theories have been used by psychologists to study a range of different phenomena including social cognition and stereotyping (McConnell, 2001, cited in Maltby et al., 2008), in showing differences between Eastern and Western cultures and the way in which we conceptualize intelligence (Sternberg, 2001; Berry, 1984 cited in Maltby et al., 2008) and in generating implicit theories of a desire for fame (Maltby et al., 2008) and fame interest (Maltby, 2010). It is not believed an implicit theory study of team anxiety has been carried out to date, however.

Other methods of researching team anxiety were considered - and not adopted. For example, a grounded theory approach (Glaser and Strauss, 1967) while having the potential to describe team anxiety and generate theories from the observations of teams, remains problematic. Firstly, grounded theory is open to researcher bias. The researcher might have engaged in the research tainted by conclusions formed during previous observational studies of teams (e.g. Woods, 2014), which might have restricted

perceptions of team anxiety during the present study. Secondly, numerous teams would need to be studied to be able to generalise from the findings. This would generate a huge volume of data, which would be difficult to deal with as well as being time consuming delaying a clearer conception of team anxiety further. Principally, this approach would not advance our understanding sufficiently. There are already many descriptions of anxiety and, as these do not provide the required clarity, other methods were sought.

Thematic analysis is used in qualitative research and focuses on examining themes within data. Team members could be interviewed and the content of these analysed and suitable themes identified, coded and then analysed to understand the subjective experience of anxiety in teams. Woods (2014) adopted this approach using themes previously identified by Wheelan (1994) in her Group Development Observation System (GDOS). As with grounded theory, using GDOS generated a huge volume of data, which subsequently needed to be analysed, missing the opportunity to work with the team 'in the moment' and was also similarly subject to researcher bias. For example, different researchers are likely to pay attention to different team interactions thus missing some that might be important (Guest, 2012) and might code team interactions differently thereby skewing the data. Reliability is therefore a concern (Guest, 2012). Thematic analysis could be valuable in subsequent studies of team anxiety helping understand teams subjective experience of anxiety – but only once team anxiety has been more clearly defined. For example, this approach could help establish what is it about certain events, activities or contexts that teams find anxiety provoking.

The aim of this present study is to develop our understanding of team anxiety and offer a more robust definition of a new idea. It is hoped that this research can be extended in the future to demonstrate team anxiety's usefulness in terms of its ability to help teams perform through the creation of a tool to measure the concept of teams within their work context. This study will contribute to filling the gap highlighted in the academic literature and in practice by starting to measure team anxiety in a useful way. Team anxiety has significant potential utility for many parties, not least teams themselves. Teams may be experiencing anxiety and wish to increase or decrease it to allow them to perform at their best.

2. Study 1

2.1 Method

This study examines the factor structure of participants' conceptions of a team exhibiting anxiety to reveal the construction and content of people's opinions about it. In order to identify the common patterns (or factors) that exist between the variables that make up the different team anxiety items, and provide a reliable means of simplifying the correlational relationships between them, a multivariate data reduction technique, or factor analysis, was used. Kline (1986) advises that a key function of these psychometric techniques is to provide evidence of the validity of possible traits by identifying hidden concepts behind a number of items among the population.

2.2 Ethical consent

The study procedure received ethical approval from the University of Leicester's School

of Psychology's Ethics Committee. Participants in both studies provided consent through the first page of the electronic survey where they were asked to indicate agreement prior to starting the survey or were given the choice to exit the survey without completing it. The consent form contained statements and instructions regarding the nature and purpose of the study, the anonymity of the data, withdrawal during and after completion, how the data would be stored in coded form, how they could obtain their data and the results of the study if requested, and the intended use, means and length of storage and disposal of the data. The Participant Ethical Consent Form used in this study is shown at Appendix A.

2.3 Participants

A total of 200 participants ($N = 81$ males and 119 female) of standard working age (18–65 years old) took part in Study 1.

While it proved impossible to identify the precise countries in which participants worked, the population from which this sample was derived was drawn strongly from the UK, continental Europe, South Africa and South American countries. A minority of participants from the Americas and Australasia were also present in the population. Few participants were from Asia. In terms of ethnicity, 87.88% (174) of respondents identified themselves as White European, 9 (4.55%) respondents as Asian, 7 (3.54%) respondents as Black, 2 (1%) respondents as Mixed race, and the remainder identified themselves as 'other' ethnicity. In terms of employment status, 125 (63%) described themselves as employed and 67 (34%) as a coach, consultant or contractor in the first study. No full-time students participated in the study. They were not invited to participate because it

was believed they would not have sufficient experience of working in a team to contribute usefully. Finally, 193 (98%) respondents reported currently working, or had recently worked in a team (with over a third having been the team leader (64 or 32%)). The rest were mainly either Chairmen/women or Chief Executive Officers (CEOs). Over a quarter (51) described themselves as coaches, consultants or contractors who work *specifically* with teams, with nearly half of all respondents having considerable experience working as part of a team (46/23% for 11–20 years and 53/27% for 20+ years). It was not possible to determine the type of team that participants were part of from the data. This presents a weakness to the study and limits the extent to which these findings can be related to other teams.

We wanted to ensure the sample represented a number of different team populations at work and so people were approached, via professional networks, to obtain respondents from across a range of sectors and industries.

2.4 Developing items for a scale – participants

The researcher recruited four participants to create an initial list of descriptors of team anxiety. All were known to the researcher prior to this study and recruited because of their experience of being a member of team. These participants were all working adults aged from 40 to 53 years mean age, SD 5.4) and are briefly described here:

Participant A:

Participant A is female and aged fifty. Her early academic training was as a scientist before qualifying as an accountant. She subsequently progressed her career in successive finance roles and has been a serial Finance Director and Chief Financial Officer (CFO) of various global firms. Participant A was selected because it was believed her significant experience of being a member of, and leading, large, global teams would bring a different to the primary research and offer a contrast to that brought by other respondents. She participated in the research by providing items during an in-person meeting.

Participant B:

Participant B is female and aged mid-fifties. She initially trained as a Solicitor before training as an executive coach. Until recently, she was President of the UK's largest professional coaching body. She has experience being a member of legal case teams and in leading large teams in her professional body role. Participant B was selected because she has a professional interest as a practitioner in coaching teams, as well as earlier experience as a team member and leader. She participated in the research by providing items by e-mail following instructions provided by the researcher.

Participant C:

Participant C is male and aged forty. He has several years experience as a management consultant with a global consulting firm as well as with small, entrepreneurial teams. Respondent C was selected because of his experience gained in a different economic sector and because he represented a slightly younger age profile to the other respondents.

He participated in the research by providing items by e-mail following instructions provided by the researcher.

Participant D:

Participant D is male and aged mid-fifties. He initially trained as a Barrister before becoming a General Counsel (GC) and Company Secretary with large, international companies. Comparatively, by virtue of the type of work and roles he has undertaken, he has less experience of working in, and leading, teams than the other participants. He participated in the research by providing items by e-mail following instructions provided by the researcher.

2.5 Developing items for a scale – procedure

We assembled a list of descriptors of teams perceived to be exhibiting anxiousness. To arrive at this list, participants were asked the following question either in person or by e-mail:

“Please write (type) a list of descriptors (all that you can in 10 minutes) asking:

“What are the characteristics of a team at work that shows signs of anxiety?”

The same brief and question was given to all participants. The following level of responses was obtained:

Table 1: Number of responses generated

| Participant | # responses generated |
|--------------|-----------------------|
| A | 8 |
| B | 16 |
| C | 8 |
| D | 12 |
| Total | 44 |

Participants were asked to list as many characteristics they could think of that described teams exhibiting anxiety on a blank piece of paper. Data stopped being collected when participants were unable to provide any new descriptors. Forty-four items were generated initially. Those characteristics listed by the subjects that were mentioned more than three times were collected into a shorter list of descriptors. From this material, the researcher identified 21 descriptors as potential items. In addition, the researcher developed the items for subsequent administration in Study 1 by changing them to be as short and unambiguous in meaning as possible (Kline, 1986), while leaving the original language and actual words used by participants as untouched as possible. As the question asked participants about anxiety at the whole team level, it is assumed that the items they generated describe anxiety team.

The study then tested the newly created items through collecting and analysing data to assess whether they are a good measure of team anxiety. We provided the 200 participants in this experiment with each of the 21 descriptors in the form of a questionnaire for them to complete. These were:

Table 2: List of Team Anxiety Scale Items

| |
|--|
| 1. Team members blame one another when things go wrong |
| 2. The team does not reach conclusions about issues discussed |
| 3. The team is reluctant to take decisions |
| 4. The team is slow to make decisions |
| 5. Decisions are taken too quickly without sufficient thought |
| 6. Team members are fearful of speaking up |
| 7. Levels of trust between team members are low |
| 8. Team members meet or talk behind one another's back |
| 9. There is enough listening between team members |
| 10. Team members argue openly |
| 11. Quieter or more nervous team members are dominated |
| 12. Team members are judgemental of each other |
| 13. The team acts too quickly to decisions it has made |
| 14. The team does not prioritise activities or actions |
| 15. The team is slow to act on decisions it has made |
| 16. Team members interrupt each other |
| 17. Team members put their individual agendas before the team's agenda |
| 18. Team members actively avoid each other |
| 19. Sub-groups form within the team |
| 20. The team is unwilling to discuss what is not working effectively |
| 21. Absenteeism from work is high |

Participants were asked to rate each characteristic (item) across a classic five-point scale ranging from 1 (not at all characteristic) to 5 (very much characteristic). This scale measured the degree of their agreement to these statements in describing a team

showing anxiety.

The 200 responses to the scale were screened for irregularities. For example, duplicated submissions from the same IP address were regarded as suspicious and discarded, and long runs of the same response (e.g. “Not at all characteristic” or “Very much characteristic”) were removed. Six ($N = 6$) responses were discarded due to anomalous or incomplete/missing data.

The data consisted of participants currently working in a team as well as coaches and consultants. While it was recognized that coaches/consultants might have previous experience of being a team member (or leader) before moving into their current coaching or consultancy roles, we were interested in whether these two role groups viewed team anxiety differently and if this might reveal different factors in the data. Consideration was therefore given as to how to test this, including dividing the sample into two groups (team members and non-team members i.e. coaches/consultants) and running separate statistical tests. In practice, it proved impossible to distinguish between these groups by job/role type precisely, and analyse them independently, however. Instead, the sample was divided randomly into two halves and analysed separately. This had the benefit of providing greater reassurance that the conclusions we draw from the population would be less subject to sampling error.

Bartlett’s (1937) test suggested that the data were suitable for an exploratory factor analysis (EFA), $\chi^2 = 1268.76$, $p < .001$ significance for sample 1 and 1128.53 , $p < .001$ significance for sample 2, and the Kaiser-Meyer-Olkin measure indicated that there was an adequate sample size for this specific analysis (.91 for sample 1 and .876 for

sample 2).

To determine the factor structure of the data, exploratory factor analysis (EFA) was carried out. It is hoped that an EFA would show any correlation between variables and show possible factors through groups of variables that related highly to one another. The number of participants (194) to variables (21) measured exceeded the minimum recommended ratio needed for EFA of 5 to 1, with a minimum number of participants of 150 (Cattell, 1978; Gorsuch, 1983).

2.6 Results

Exploratory factor analysis (EFA) was undertaken in two stages: firstly, a process known as ‘extraction of factors’ was carried out to determine the number of factors that underlay the data; secondly, these factors were rotated to determine which items ‘loaded’ onto the factors. Deciding upon the appropriate number of factors is a very important element of EFA and fraught with difficulties (Maltby, 2015). As a new potential measure of team anxiety, determining the correct number of factors is also important to avoid the limitations of previous assessment tools. For example, both the number and type of factors informing the most popular (social) anxiety measures vary considerably (from 3 to 8 in number) and present inconsistent findings in factor solutions, lending doubts to their credibility (Caballo et al., 2015). Given the significance of deriving the correct number of factors, a number of techniques, collectively known as the K1 method, were applied to both samples and calculated using The Statistical Package for the Social Sciences (SPSS). The K1 consists of the Kaiser test (showing Eigenvalues greater than one) (Kaiser, 1960), a Scree Plot (Cattell, 1966) and a Parallel Analysis of Monte Carlo

simulations (Horn, 1965).

2.6.1 Sample 1: Kaiser test results

Table 3 shows the Kaiser test results for Sample 1.

Table 3: Sample 1: Kaiser Test results

| Factor | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|--------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 9.778 | 46.562 | 46.562 | 9.375 | 44.644 | 44.644 |
| 2 | 1.807 | 8.603 | 55.165 | 1.445 | 6.881 | 51.526 |
| 3 | 1.366 | 6.503 | 61.669 | .838 | 3.991 | 55.516 |
| 4 | 1.007 | 4.794 | 66.463 | .568 | 2.706 | 58.222 |
| 5 | .941 | 4.481 | 70.943 | | | |
| 6 | .705 | 3.357 | 74.301 | | | |
| 7 | .693 | 3.302 | 77.603 | | | |
| 8 | .597 | 2.843 | 80.446 | | | |
| 9 | .578 | 2.753 | 83.199 | | | |
| 10 | .517 | 2.462 | 85.662 | | | |
| 11 | .446 | 2.123 | 87.784 | | | |
| 12 | .427 | 2.033 | 89.818 | | | |
| 13 | .363 | 1.729 | 91.547 | | | |
| 14 | .331 | 1.578 | 93.125 | | | |
| 15 | .294 | 1.400 | 94.525 | | | |
| 16 | .264 | 1.255 | 95.780 | | | |
| 17 | .235 | 1.117 | 96.897 | | | |
| 18 | .188 | .898 | 97.795 | | | |
| 19 | .175 | .831 | 98.626 | | | |
| 20 | .159 | .758 | 99.384 | | | |
| 21 | .129 | .616 | 100.000 | | | |

Extraction Method: Maximum Likelihood.

Eigenvalues show the proportion of variance accounted for by each factor. The sum of the Eigenvalue is the number of variables in the analysis. Eigenvalues above the number one are seen as significant (Kaiser, 1960). Table 3 reveals four factors in the data sample.

2.6.2 Sample 1: Scree Plot results

Some researchers take the view that using Eigenvalues is unreliable, however, and so additional statistical criteria were employed to give further confidence to the results. The first was the Scree Test (Cattell, 1966) based on a plot of Eigenvalues of the factors. A Scree Test plots the Eigenvalues to allow a visual inspection and assessment of which factors should be extracted. Only those factors that are 'above the elbow' in the line of Eigenvalues should be chosen.

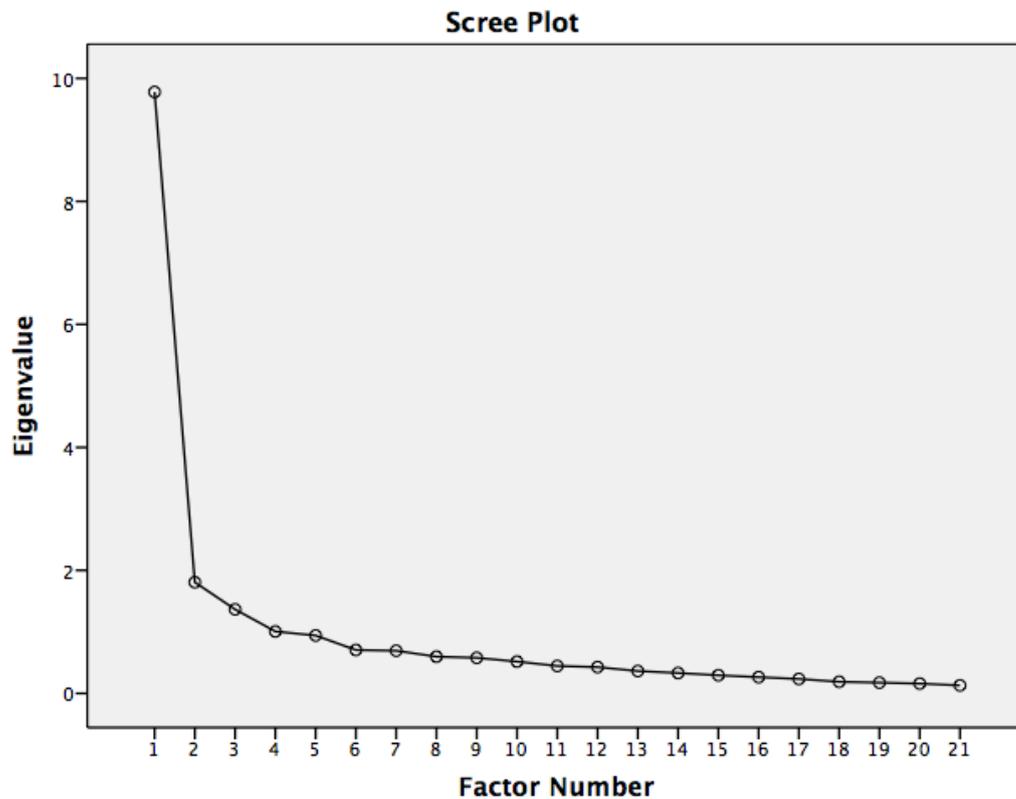


Figure 1: Sample 1 Scree Plot results

We can see in Figure 1 that the line flattens after point 2 on the horizontal axis leaving one factor 'above the elbow'. From this, we can conclude that only the factor before this point on the line (i.e. Factor 1) should be extracted.

2.6.3 Sample 1: Parallel Analysis results

As the Sample 1 Scree Plot result is different from the Kaiser Test findings (i.e. showing a different number of factors to be extracted), and this form of visual assessment remains subjective and open to interpretation, a further, more accurate, test called Parallel Analysis of Monte Carlo (PCA) simulation (Horn, 1965) was additionally used. The data below was entered into the Monte Carlo PCA (Table 4) and the following results obtained (Table 5):

Table 4: Sample 1: Monte Carlo PCA for Parallel Analysis

| No. of variables | Number of subjects | Number of replications |
|------------------|--------------------|------------------------|
| 21 | 97 | 1000 |

The table below shows the Parallel Analysis results for Sample 1:

Table 5: Sample 1: Parallel Analysis results

| Eigenvalue # | Random Eigenvalue | Standard Dev |
|--------------|-------------------|--------------|
| 1 | 1.9513 | .0968 |
| 2 | 1.7660 | .0718 |
| 3 | 1.6309 | .0632 |
| 4 | 1.5105 | .0534 |
| 5 | 1.4079 | .0479 |
| 6 | 1.3164 | .0443 |
| 7 | 1.2300 | .0408 |
| 8 | 1.1518 | .0393 |
| 9 | 1.0764 | .0374 |
| 10 | 1.0048 | .0359 |
| 11 | 0.9363 | .0371 |
| 12 | 0.8685 | .0356 |
| 13 | 0.8071 | .0344 |
| 14 | 0.7462 | .0329 |
| 15 | 0.6867 | .0333 |
| 16 | 0.6268 | .0322 |
| 17 | 0.5708 | .0323 |
| 18 | 0.5169 | .0322 |

| | | |
|----|--------|-------|
| 19 | 0.4600 | .0317 |
| 20 | 0.4019 | .0317 |
| 21 | 0.3327 | .0367 |

2.6.4 Sample 2: Kaiser test results

This parallel analysis of Monte Carlo simulation allows the comparison of the Eigenvalues to those that might be expected from purely random data with no structure. The parallel analysis compares the set of team anxiety items against a random dataset to determine the number of factors to be extracted. The Monte Carlo analysis allows us to compare the Eigenvalues against the random Eigenvalues in turn. We are only interested in those factors that are greater in value than the corresponding values in the dataset and in extracting these. This is because the generated dataset consists of purely random data and we can only be certain that Eigenvalues that exceed these amounts are not created by chance.

Our first Eigenvalue (9.778) exceeds the first Eigenvalue in the random dataset (1.9513) and the second Eigenvalue (1.807) exceeds the second Eigenvalue in the random dataset (1.7660). However, the third Eigenvalue (1.366) does *not* exceed the third Eigenvalue in the random dataset (1.6309) and so is not extracted. This Monte Carlo analysis tells us that only two factors can be extracted (the first and second Eigenvalue).

Sample 2

Table 6 shows the Kaiser Test results for Sample 2.

Table 6: Sample 2: Kaiser test results

| Factor | Total Variance Explained | | | | | |
|--------|--------------------------|---------------|--------------|-------------------------------------|---------------|--------------|
| | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 8.691 | 41.385 | 41.385 | 8.188 | 38.992 | 38.992 |
| 2 | 1.778 | 8.466 | 49.851 | 1.363 | 6.491 | 45.482 |
| 3 | 1.414 | 6.733 | 56.584 | 1.063 | 5.063 | 50.545 |
| 4 | 1.186 | 5.647 | 62.230 | .618 | 2.941 | 53.486 |
| 5 | 1.017 | 4.842 | 67.072 | .628 | 2.990 | 56.476 |
| 6 | .895 | 4.263 | 71.335 | | | |
| 7 | .847 | 4.035 | 75.369 | | | |
| 8 | .692 | 3.296 | 78.665 | | | |
| 9 | .645 | 3.073 | 81.738 | | | |
| 10 | .563 | 2.682 | 84.421 | | | |
| 11 | .484 | 2.305 | 86.726 | | | |
| 12 | .468 | 2.229 | 88.955 | | | |
| 13 | .397 | 1.890 | 90.845 | | | |
| 14 | .378 | 1.799 | 92.644 | | | |
| 15 | .326 | 1.553 | 94.197 | | | |
| 16 | .283 | 1.349 | 95.546 | | | |
| 17 | .260 | 1.238 | 96.784 | | | |
| 18 | .244 | 1.161 | 97.946 | | | |
| 19 | .182 | .866 | 98.812 | | | |
| 20 | .145 | .688 | 99.500 | | | |
| 21 | .105 | .500 | 100.000 | | | |

Extraction Method: Maximum Likelihood.

As we are interested in Eigenvalues above the number one (Kaiser, 1960), five factors are shown in this data sample.

2.6.5 Sample 2: Scree Plot results

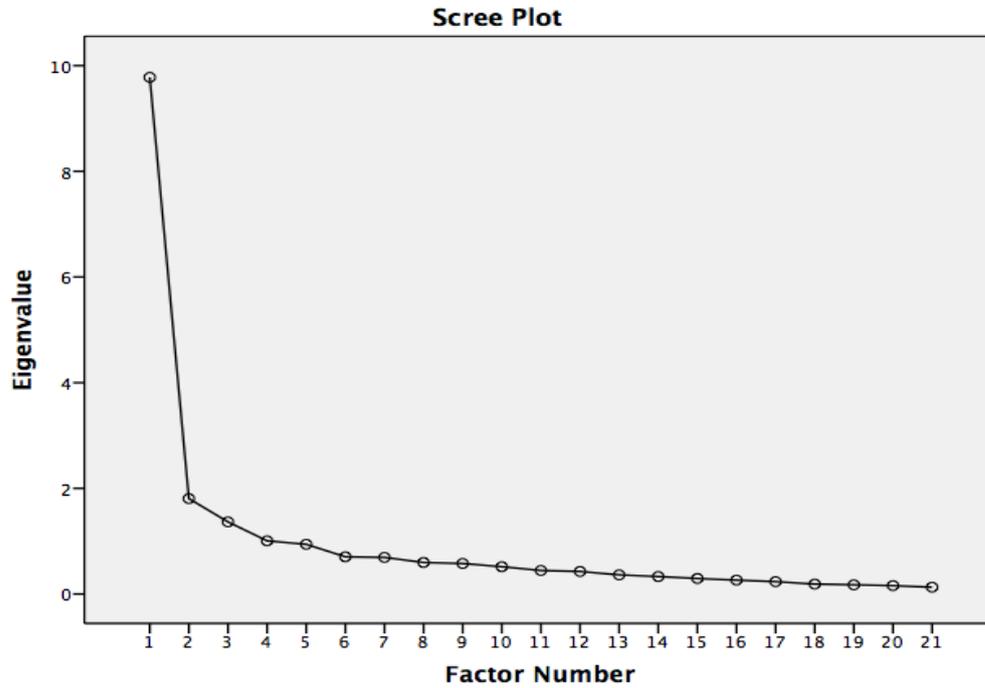


Figure 2: Sample 2 Scree Plot results

This Scree Test reveals one factor to be extractable from the Sample 2 data.

2.6.6 Sample 2: Parallel Analysis results

The table below shows the Monte Carlo PCA for Parallel Analysis results for Sample 2.

As before, there were 21, 97 and 1000 variables, subjects, and replications respectively.

Table 7: Sample 2: Parallel Analysis results

| Eigenvalue # | Random Eigenvalue | Standard Dev |
|--------------|-------------------|--------------|
| 1 | 1.9513 | .0968 |
| 2 | 1.7660 | .0718 |
| 3 | 1.6309 | .0632 |
| 4 | 1.5105 | .0534 |
| 5 | 1.4079 | .0479 |
| 6 | 1.3164 | .0443 |
| 7 | 1.2300 | .0408 |

| | | |
|----|--------|-------|
| 8 | 1.1518 | .0393 |
| 9 | 1.0764 | .0374 |
| 10 | 1.0048 | .0359 |
| 11 | 0.9363 | .0371 |
| 12 | 0.8685 | .0356 |
| 13 | 0.8071 | .0344 |
| 14 | 0.7462 | .0329 |
| 15 | 0.6867 | .0333 |
| 16 | 0.6268 | .0322 |
| 17 | 0.5708 | .0323 |
| 18 | 0.5169 | .0322 |
| 19 | 0.4600 | .0317 |
| 20 | 0.4019 | .0317 |
| 21 | 0.3327 | .0367 |

As with Sample 1, the Monte Carlo analysis for Sample 2 indicates two factors can be extracted.

2.6.7 Summary of Extraction of Factors

Following tests to determine the number of factors to be extracted, the results from both samples are summarised in the table as follows:

Table 8: Summary of Extraction of Factors results

| | Kaiser Test | Scree Plot | Parallel Analysis |
|-----------------|-------------|------------|-------------------|
| Sample 1 | 4 | 1 | 2 |
| Sample 2 | 5 | 1 | 2 |

The Eigenvalues created by SPSS through the Kaiser Test suggest four and five factors are significant from Samples 1 and 2 respectively. The Scree Plot test results are much lower and reveal only one factor to be extractable in both samples. The former is

not surprising given the Eigenvalues were generated using the SPSS set to ‘Maximum Likelihood’, maximizing the likelihood of the selected model, and the observed data, being in agreement. In other words, this is likely to generate a higher number of matched values. The Scree Tests, as has already been pointed out, can be easily misread or misinterpreted and so the single factor identified could be interpreted differently. It is only when the Monte Carlo analysis is carried out that – as the most suitable and accurate of all the tests comprising the K1 method (Maltby, 2015) - we can confirm that two factors can be extracted reliably. Given these findings, we propose that two factors from the EFA are used to measure team anxiety.

Given this conclusion, it is important for us to understand how the items within these two factors might be related. A rotation of factors will provide us with a much clearer depiction of which items load on to which factor, i.e. which of the 21 descriptors of team anxiety relate to one another. Bryant and Yarnold (1995, p. 132) define choosing the right type of rotation as “a procedure in which the eigenvectors (factors) are rotated in an attempt to achieve simple structure.” Yaremko et al (1986) take this position further by adding that factor rotation should also allow factors to be interpretable. According to Vogt (1993, p.91), “This [factor rotation] is done differently depending upon whether the factors are believed to be correlated (oblique) or uncorrelated (orthogonal).” Fabrigar, Wegener, MacCallum, & Strahan (1999) concur saying that an oblique rotation is most appropriate when the components are theoretically or empirically related. Given that some of the items appear to look related in the minds of the participants that produced them, our starting assumption is that they might be related in some way and thus an

oblique type of rotational technique was used. This type of oblique rotation has the ability to indicate how the different variables are related to one another, which is an important consideration given the belief that they are related.

2.7 Oblique rotation

We used a Promax rotation method with Kaiser Normalization with delta set to 0. The Statistical Package for Social Sciences (SPSS) was used to create a pattern matrix output and we were particularly interested in the strength of each variable in defining the factor. Table 9 shows the SPSS' output of this Oblique rotation against both samples.

Table 9: Oblique rotation (Pattern Matrix) with Kaiser Normalization

| | Sample 1 | | Sample 2 | |
|----------|----------|----------|----------|----------|
| | Factor 1 | Factor 2 | Factor 1 | Factor 2 |
| VAR00001 | .819 | .025 | .601 | .202 |
| VAR00002 | .106 | .673 | -.023 | .816 |
| VAR00003 | .053 | .802 | -.042 | .934 |
| VAR00004 | -.208 | .952 | -.262 | .939 |
| VAR00005 | .573 | .092 | .127 | .409 |
| VAR00006 | .793 | .032 | .599 | .218 |
| VAR00007 | .757 | .149 | .620 | .286 |
| VAR00008 | .774 | .023 | .471 | .334 |
| VAR00009 | -.431 | -.049 | -.370 | -.253 |
| VAR00010 | -.013 | -.008 | -.347 | .300 |
| VAR00011 | .676 | -.121 | .478 | -.030 |
| VAR00012 | .871 | -.144 | .648 | .096 |
| VAR00013 | .528 | -.062 | .529 | -.037 |
| VAR00014 | .104 | .683 | .131 | .506 |
| VAR00015 | -.025 | .692 | .053 | .535 |
| VAR00016 | .476 | .056 | .216 | .279 |
| VAR00017 | .623 | .157 | .368 | .215 |
| VAR00018 | .845 | -.025 | .864 | -.119 |
| VAR00019 | .447 | .253 | .701 | -.002 |

| | | | | |
|----------|------|-------|------|-------|
| VAR00020 | .689 | .184 | .753 | -.026 |
| VAR00021 | .801 | -.049 | .651 | -.014 |

Extraction Method: Maximum Likelihood.

Rotation Method: Promax with Kaiser Normalization.

a. Group = 1.00

b. Rotation converged in 3 iterations.

Comrey and Lee (1973) advise that any loading above 0.44 is important, with higher numbers determining the importance of the factor. Other commentators (e.g. Kline, 1986) direct us not to ignore loadings below 0.3. We were seeking a ‘clear interpretation’ from this factor analytic technique, i.e. that all factors should load highly (clearly) onto one factor (based on W.P. Thurston’s (1976) simple structure in Horn, McArdle & Mason, 1983). In interpreting solutions, we chose to select items based on the following criteria:

- Factors with items loading above 0.44 in one Factor
- Factors with items not loading above 0.33 in the other Factor.

Items 5, 9, 10, 16 and 17 did not fulfil these requirements and load clearly to any factor, and item 8 was ambiguous. An inspection of the content of these six items suggests these aspects could be triggered by a number of different possible causes and so may not be an accurate indicator of team anxiety. The remaining variables loaded onto a single factor. As we were seeking clear interpretation, items 5, 8, 9, 10, 16 and 17 were removed to leave a meaningful oblique solution. The clearness of this loading suggests that we extracted correctly, with the right number of factors, and have a clear interpretation with evident simple structure. The new set of fifteen team anxiety

descriptors therefore becomes:

Table 10: Revised List of Team Anxiety Scale Items

| # | Team Anxiety characteristic (variable/item) |
|----|--|
| 1 | Team members blame one another when things go wrong |
| 2 | The team does not reach conclusions about issues discussed |
| 3 | The team is reluctant to take decisions |
| 4 | The team is slow to make decisions |
| 5 | Team members are fearful of speaking up |
| 6 | Levels of trust between team members are low |
| 7 | Quieter or more nervous team members are dominated |
| 8 | Team members are judgemental of each other |
| 9 | The team acts too quickly to decisions it has made |
| 10 | The team does not prioritise activities or actions |
| 11 | The team is slow to act on decisions it has made |
| 12 | Team members actively avoid each other |
| 13 | Sub-groups form within the team |
| 14 | The team is unwilling to discuss what is not working effectively |
| 15 | Absenteeism from work is high |

3. Defining the factors

The factors extracted need to be defined and labelled with a general term that best describes the variables that load onto each one. People 'name' factors by deciding what the related variables have in common. The variables were studied and descriptive titles determined. These were subsequently checked with a colleague independent of the research to ensure they were suitable descriptors.

3.1 Factor 1 definition

The items below describe factor one:

Table 11: Descriptions of Factor 1 Team Anxiety items

| Team anxiety characteristic (variable/item) |
|--|
| 1. Team members blame one another when things go wrong |
| 5. Team members are fearful of speaking up |
| 6. Levels of trust between team members are low |
| 7. Quieter or more nervous team members are dominated |
| 8. Team members are judgemental of each other |
| 9. The team acts too quickly to decisions it has made |
| 12. Team members actively avoid each other |
| 13. Sub-groups form within the team |
| 14. The team is unwilling to discuss what is not working effectively |
| 15. Absenteeism from work is high |

This factor contains the largest number of loaded items (# 10). Against the oblique results, the first factor accounted for 73% of the overall variance and relevant loadings ranging from 1.180 (item 15) to 49.030 (item 1) and is best defined by the statement ‘team members blame one another when things go wrong’. This counts for nearly 50% of the variance alone. This first factor indicates team members do not accept personal responsibility when things do not go well, instead preferring to accuse others in the team. This behaviour may provoke defensive reactions in the person(s) being blamed. As a result, personal conflict between team members is likely to be high and levels of trust may be affected (e.g. Item 6). Item 5 refers to people being afraid of speaking up

due to team anxiety, perhaps related to team members being judgemental of one another (Item 8). It appears team members either avoid each other, and associated confrontation, (Item 12) due to team anxiety or form alliances in the form of sub-groups (Item 13) for safety. Despite these difficulties, teams are unwilling to discuss what is not working effectively (Item 14).

Two macro themes appear evident from the Factor 1 item descriptors: firstly that there is conflict *between* team members i.e. team anxiety is manifesting within the team in how its members are behaving towards each another (e.g. Items 1 and 8). Secondly, team members look to be trying to escape this conflict through various avoidant strategies (e.g. avoiding one another (Item 12); not speaking up (Item 5)). Irrespective of whether conflict is being sought or evaded, both could be due to the presence of team anxiety. Team members may either be expunging themselves of built up anxiety or trying to limit them from becoming anxious in the first place. It is possible that due to these avoidant approaches being ineffective in reducing team anxiety, that team members then choose to be absent from work (Item 15), although this, in itself, is another form of avoidant strategy.

Item 9 relates to decision-making (and as such could load onto Factor 2 by description) but, because it loads onto factor 1, could be related to an avoidance of conflict through making a decision very quickly. Item 6 could fit into either of these sub-categories, i.e. trust could be low because team members are uncertain of the conflict that might follow interactions or because others are avoiding important issues in the team or

discussing them (item 14).

These items appear to relate closely to three of Bion's (1962) basic group assumptions. For example, Items, 9, 12, 13 and 15 seem related to 'flight'-type behaviours, Items 2, 6, and 14 to 'freeze'-type behaviour and Items 1, 7, and 8 relate to 'fight'-type behaviours. Given their difference, we might have expected them to appear under different factors. The factor analysis suggests differently, however, and so we have reflected these in the choice of evaluative labels created.

Key words associated with Factor 1 are:

- Blame;
- Fear;
- Low trust;
- Domination,
- Judgement,
- Conflict, and
- Conflict avoidance.

Given these, we have labelled the first factor "Intra team conflict and conflict avoidance".

3.2 Factor 2 definition

The items set out below describe Factor two:

Table 12: Descriptions of Factor 2 Team Anxiety Items

| # | Team Anxiety characteristic (variable/item) |
|----|--|
| 2 | The team does not reach conclusions about issues discussed |
| 3 | The team is reluctant to take decisions |
| 4 | The team is slow to make decisions |
| 10 | The team does not prioritise activities or actions |
| 11 | The team is slow to act on decisions it has made |

Again, based on the Oblique Promax profile, items loaded onto this factor equate to 26% of the overall variance and relevant loadings ranging from 2.250 (item 11) to 10.818 (item 2). The central theme across these items is decision-making – or rather a reluctance to do so, at least with any speed. Time therefore also plays a part in this set of items. Not, or being reluctant to, conclude matters (Items 2 and 3), or reach a decision (Items 4 and 11), or taking undue time to do this, could be forms of avoidance. Relatedly, this procrastination could also be a means of delaying the expected intra-personal conflict highlighted in the first factor.

The language in the item descriptions (all items) is notably different from the Factor One, which referred to behaviours *between* team members. Conversely, Factor Two refers to the whole team as a single, collective identity. The final two items (10 and 11) refer to a lack of action, which is an important, related element following team decision-making activities.

Given their loading and relatedness, these items are grouped in their own distinct

category labelled “Impaired collective decision making and action orientation”.

4. Conclusions from Study 1

Initial findings from this EFA study (1) suggest that two separate factors emerge from individuals’ implicit theories of team anxiety:

1. ‘Intra team conflict and conflict avoidance’, and
2. ‘Impaired collective decision-making and action orientation’.

Although all dimensions were clearly represented, “Intra team conflict and conflict avoidance” emerged the more dominant factor. Nonetheless, both factors, and associated scale items, could be used as indicators of the presence of team anxiety and be used to measure it. Analyses among these factors suggest that they display adequate factor congruence.

5. Study 2

Study 1 adopted an implicit theory approach. While this approach has its strengths and is suitable for this study, it does have drawbacks. For example, Sternberg (2001) recorded concerns over the extent to which the findings of an implicit theory study showed external validity. In other words, he was concerned that participants’ beliefs on a given topic either only existed in their minds or that they had just formed them for that study. For team anxiety, it could be that notions of this concept were internal to participants’ psyche and they were not describing actual team characteristics, and the features they were reciting were prompted by the study rather than based on any external reality of teams at work.

To estimate the internal reliability of the proposed Team Anxiety construct, Cronbach's (1951) alpha coefficients for the proposed two factor scales ('Intra team conflict and conflict avoidance' and 'Impaired collective decision-making and action orientation') were computed for both samples and the results found to be:

Table 13: Internal reliability (Cronbach Alpha Coefficient) results

| Factor | Sample 1 | Sample 2 |
|--|-------------------------|-------------------------|
| Intra team conflict and conflict avoidance | $\alpha = .923, N = 10$ | $\alpha = .899, N = 10$ |
| Impaired collective decision-making and action orientation | $\alpha = .874, N = 10$ | $\alpha = .850, N = 10$ |

They exceed the internal reliability criterion of $\alpha > .70$ as "good" and provide an even higher of reliability in all four cases (Nunnally, 1978; Kline, 1999). This exercise was repeated with "Cronbach's Alpha if Item Deleted" selected and the results compared with the original reliability statistics. The same results were produced. In other words, no items were revealed that would bring down the scale and improve its internal reliability further. These results are not surprising given weaker items had already been removed from the scale.

Means and standard deviations for both factors elicited from the EFA were also calculated and are reported below. All internal reliability statistics proved satisfactory. These show how the sample has fared in relation to each dimension of team anxiety.

Table 14: Sample 1: Means and SD's

| | Descriptive Statistics ^a | | | | |
|--|-------------------------------------|---------|---------|---------|----------------|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Intra team conflict and conflict avoidance | 97 | 10.00 | 47.00 | 28.7216 | 10.01118 |
| Impaired collective decision-making and action orientation | 97 | 5.00 | 25.00 | 14.2990 | 4.88442 |
| Valid N (listwise) | 97 | | | | |

a. Group = 1.00

Table 15: Sample 2: Means and SD's

| | Descriptive Statistics | | | | |
|--|------------------------|---------|---------|---------|----------------|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Intra team conflict and conflict avoidance | 97 | 12.00 | 47.00 | 29.9691 | 8.88286 |
| Impaired collective decision-making and action orientation | 97 | 5.00 | 24.00 | 15.0515 | 4.30932 |
| Valid N (listwise) | 97 | | | | |

a. Group = 2.00

Study 2 sought to test the validity of the exploratory factor analysis (EFA) findings in Study 1 by showing that teams at work actively use the constructs of team anxiety identified. Study 2 followed a similar approach to that used by Sternberg (1985). The aim of this second study was to determine whether any future data collected using the team anxiety scale aligns with the explanation provided by the exploratory factor analysis, i.e. does data gathered fit the 2-factor team anxiety model.

We sought to establish a fit between the new data and the exploratory factor analysis using appropriate statistics. To do so, we first needed to compute a scale. A scale

is important when using multiple variables to measure the same concept when those variables are found to have a single factor in common and are strongly associated with one another (Garczynski, n.d.). In the case of team anxiety, after conducting the factor analysis to see which of the 15 variables (Items) it had in common, we created a scale from all factors loading highly onto each of the variables using the SPSS. To check the computation had been handled correctly, we examined the raw data and the frequencies for the scale. We were interested in using the items to compute an overall scale score to assess the degree of anxiety present in a team at a particular point in time.

5.1 Method

5.1.1 Participants

A profile of the participants who took part in Study 2 follows. To ensure a broad representative sample from across a range of teams at work, a different group of respondents was approached than those for Study 1.

A total of 53 international participants (N = 32 males, 60% and 21 females, 40%) of standard working age (18–65 years old) took part in the study. In terms of ethnicity, 50 (93%) respondents identified themselves as White European, 1(1%) respondent as Black, and 2 (5%) respondents as mixed race. There were no Asian participants in Study 2. In terms of employment status, 44 (80%) described themselves as employed and 8 (18%) as a coach, consultant or contractor. One (1%) full-time student participated in the study although this person had previous experience of working in teams. Finally, all respondents reported currently working, or having recently worked, in a team (with over a third having been the team leader (64 or 32.32%) and 65 (or 32.83%) having been a

member of a work team). In terms of team roles, 19 (16%) described themselves as team coaches, consultants or contractors, 1 as a Chairperson (2%), 8 (14%) as CEOs and 6 (11%) as non-executive directors. Twenty nine (53%) participants described themselves as being in team leader roles and 18 (33%) as team members. In terms of sector, over half of the participants were from business services, financial services or professional services (16, 16 and 20% respectively). Compared with Study 1, respondents had less experience of team working (e.g. 11 (20%) had worked in a team for only 2 to 5 years). This said, 65% had more than 11 years working in a team and some much more than that (10 – or 18% - had 11–20 years and 26 (47%) had 20+ years' team working experience.).

As with Study 1, it was not possible to determine the type of team that participants were a member, or leader, of (e.g. a leadership or service delivery team) from the data. This presents a weakness to the study in terms of extrapolating from these findings to teams at large.

5.1.2 Procedure

Table 17 shows the evaluation questions forming the questionnaire survey issued to participants on 5 January 2016 along with the related, original questions posed in Survey 1 and the rationale behind the evaluation question (Table 18).

Table 16: Evaluation Survey Questions

| Evaluation question | Original survey question |
|--|--|
| Q13. How often do team members blame each other? | Q9-1. Team members blame one another when things go wrong. |
| Q17. How often does the team reach conclusions about issues discussed? | Q9-2. The team does not reach conclusions about issues discussed. |
| Q18. How quickly does your team make decisions? | Q9-4. The team is slow to make decisions. |
| Q14. How vulnerable with each other are team members? | Q9-7. Levels of trust between team members are low. |
| Q20. How often does your team argue? | Q9-11. Team members argue openly. |
| Q19. How quickly does your team act on the decisions it has made? | Q9-14. The team acts too quickly to decisions it has made. |
| Q21. How often do team members interrupt each other? | Q9-17. Team members interrupt each other. |
| Q15. The team is more important than the individual team member. | Q9-18. Team members put their individual agendas before the team's agenda. |
| Q16. How high is absenteeism from work? | Q9-22. Absenteeism from work is high. |

The following supplementary questions were asked as part of the evaluation.

Table 17: Additional evaluation questions

| Additional evaluation question asked | Rationale behind question |
|---|---|
| Q11. How well is your team performing against the <i>organization's</i> expectations? | We were interested in the potential impact of anxiety on team performance. Answers to this question could be compared with responses to the levels of any anxiety present in a team. |
| Q12. How well is your team performing against <i>your</i> expectations? | Related to, yet different, from Q11 (above), we were interested in the potential impact of anxiety on team performance from the <i>team member's</i> viewpoint. Answers to this question could be compared with responses to the levels of any anxiety present in a team. |
| Q22. How dysfunctional is your team? | We were interested in the relationship between anxiety (specifically) and any broader dysfunction in a team. For example, is anxiety a contributor to team dysfunction or its own construct? It is hypothesized that anxiety is different to dysfunction but can also be a sub-set of it. |

| | |
|---|---|
| Q23. Overall, how satisfied are you at work? | <p>We were interested in whether (dis)satisfaction also contributed to anxiety at an individual level.</p> <p>It is hypothesized that if an individual was satisfied at work then they would not also be anxious.</p> |
| Q24. To what extent would you describe yourself as anxious at work? | <p>We were interested in whether team anxiety can exist separately from individual anxiety or, for example, whether anxiety must be prevalent in individuals to also exist at a team level.</p> <p>It is hypothesized that for anxiety to exist at a team level, it must also be present in individual members.</p> |

5.1.3 Results

This section presents the results of Study 2 and shows the Pearson Correlation Coefficients calculated for both team anxiety factors (‘Intra team conflict and conflict avoidance’ and ‘Impaired collective decision-making and action orientation’). They are summarized in tabulated form (Table 17). The relationships are described below using the questions as structural aids. The findings are presented in standard format with the symbol r denoting the correlation coefficient (rounded to two decimal places), with the degree of freedom in parentheses. The sample size was 53 participants ($N = 53$) with the degree of freedom for all correlation coefficients being 51 ($N = (53) - 2$). The correlation coefficient shows the effect size and direction (positive or negative – denoted by the symbol r) and p shows the statistical significance of the result occurring by chance.

Table 18: Summary of Pearson Correlation Coefficients

| Question | Correlation coefficient & statistical significance | Scale | |
|--|--|--|--|
| | | Intra team conflict and conflict avoidance | Impaired collective decision-making and action orientation |
| Q11: Team performing against <i>organization's</i> expectations? | Pearson | -.136 | -.137 |
| | Sig. (1-tailed) | .166 | .164 |
| Q12: Team performing against <i>your</i> expectations? | Pearson | -.286 | -.334** |
| | Sig. (1-tailed) | .019 | .007 |
| Q13: How often do team members blame each other? | Pearson | .445** | .466** |
| | Sig. (1-tailed) | .000 | .000 |
| Q14: How vulnerable with <i>each other</i> are team members? | Pearson | .346** | .266* |
| | Sig. (1-tailed) | .006 | .027 |
| Q15: Team is more important than individual team member | Pearson | -.192 | -.248* |
| | Sig. (1-tailed) | .084 | .036 |
| Q16: How high is absenteeism at work? | Pearson | .239* | .083 |
| | Sig. (1-tailed) | .043 | .276 |
| Q17: How often team reaches conclusions about issues? | Pearson | -.148 | -.255* |
| | Sig. (1-tailed) | .144 | .033 |
| Q18: How quickly does the team make decisions? | Pearson | -.089 | -.222 |
| | Sig. (1-tailed) | .262 | .055 |
| Q19: How quickly does team act on decisions it has made? | Pearson | -.145 | -.183 |
| | Sig. (1-tailed) | .150 | .095 |
| Q20: How often do team members argue? | Pearson | .417** | .462** |
| | Sig. (1-tailed) | .001 | .000 |
| Q21: How often do team members interrupt each other? | Pearson | .213 | .146 |
| | Sig. (1-tailed) | .063 | .148 |
| Q22: How dysfunctional is your team? | Pearson | .420** | .451** |
| | Sig. (1-tailed) | .001 | .000 |
| Q23: Overall, how satisfied are you at work? | Pearson | .009 | .070 |
| | Sig. (2-tailed) | .475 | .310 |
| Q24: To what extent would describe yourself as anxious? | Pearson | -.026 | -.005 |
| | Sig. (2-tailed) | .427 | .485 |
| Note(s): * Correlation is significant at the 0.05 level (2-tailed); ** Correlation is significant at the 0.01 level (2-tailed) | | | |

The correlations portray factors that are theoretically and empirically different from each other based on the pattern of relationships. While the sizes of the main correlations between the two factors are broadly similar, there are small, but important, differences between them. The following text describes the results in more detail along with the implications for the two-factor model of team anxiety. Non-statistically significant results

(i.e. for questions 11, 18, 19, 21, 23 and 24) shown in the table are generally not discussed because they could have occurred randomly.

Q12: How well is your team performing against *your* expectations?

There was a small-moderate, negative, statistically significant relationship between Q12 and the ‘Intra team conflict and conflict avoidance’ and ‘Impaired collective decision-making and action orientation’ scales (at level 0.05 levels of significance). This suggests team performance decreases as anxiety increases while teams make decisions. The effect sizes remain small, however.

Q13: How often do team members blame each other?

There were moderate, positive, statistically significant relationship between Q13 and both scales: The findings suggest that blaming behaviour (associated with ‘Intra team conflict and conflict avoidance’) is a factor when teams make decisions.

Q14: How vulnerable with *each other* are team members?

The results show a medium/moderate, positive and statistically significant relationship between Q14 and the ‘Intra team conflict and conflict avoidance’ scale, and a slightly smaller strength, positive and statistically significant relationship for ‘Impaired collective decision-making and action orientation’. These results indicate team members are less willing to be vulnerable and trust others while making decisions.

Q15: The team is more important than the individual team member

There was a small, negative relationship between Q15 and the ‘Impaired collective decision-making and action orientation’ scale. This indicates individual agendas come first during decision making perhaps due to anxiety associated with working through decisions with other team members.

Q16: How high is absenteeism at work?

There was a small, positive, statistically significant relationship between Q16 and ‘Intra team conflict and conflict avoidance’ and a very slight relationship with Decision-making. Although staff could be absent for any number of reasons, the findings suggest absenteeism increases slightly with rising anxiety levels through ‘Intra team conflict and conflict avoidance’.

Q17. How often does the team reach conclusions about issues discussed?

There were small, negative correlations with the decision-making scales implying a team is less likely to reach a conclusion if anxiety is present.

Q20: How often do team members argue?

The findings to this question showed a moderate strength, positive, statistically significant (at level 0.01) relationship between Q20 and both scales. The results imply that the frequency of arguing increases with ‘Intra team conflict and conflict avoidance’ and when teams make decisions when anxiety is present.

Q22: How dysfunctional is your team?

The findings for this question show a moderate, positive, statistically significant (at level 0.01) relationship between Q20 and both scales. The findings suggest reasonably strong relationships between anxiety and team dysfunction.

It has been noted elsewhere in this paper, and in the critical evaluation paper, that the sample size for Study 2 was small. Given that significance is dependent on sample size, we might expect more statistically significant findings for other question-scale correlations with a higher *N* value. It has been recommended that the study be repeated with further, and larger, samples. For now, it is prudent that the results describe the sample itself rather than be generalized beyond this group. The following discussion goes beyond noting that any result is likely to be underpowered due to the size of the sample, to explaining the nature and meaning to the relationships that the measure does show, and the practical benefits of this to work teams.

6. Discussion

Initial findings from Study 1 suggest that two separate factors emerge from individuals' implicit theories of Team Anxiety: Intra team conflict and conflict avoidance and 'Impaired collective decision-making and action orientation'. The 'Intra team conflict and conflict avoidance' scale portrays more extreme team member behaviours such as conflict avoidance and blaming. The 'Decision-making' scale refers to teams not reaching conclusions or making a decision on issues discussed, or taking excessive time

to arrive at this position, due to the presence of anxiety. It also refers to a slowness to act once decisions have been made.

A second study sought to test the validity of the findings of the exploratory factor analysis (EFA) in Study 1 by showing that teams at work actively use the constructs of team anxiety identified. We sought to establish fit between the new data and the EFA using appropriate statistics. The aim of the Pearson Correlation Coefficient is to determine if, and how much, a relationship exists between separate, continuous-type variables and whether these could have occurred by chance. In this case, we were examining any correlation between the three scales of team anxiety and the different evaluation survey questions. We have seen that the correlations showed the factors to be different – theoretically and empirically - despite the size of the main correlations being small between them. There were small yet significant differences between items and factors, which have been discussed.

Given the applied nature of this research, the findings are presented in terms of areas that are likely to be of most interest to a team leader and/or work team, namely factors directly affecting team performance (including absenteeism and dysfunction), before moving to performance-related elements such as decision-making and concluding with individually oriented elements.

Anxiety and performance are inextricably linked. The literature review concluded that teams are needed by organizations (Sharma et al., 2009), and an amount of anxiety is

needed for teams to perform in this context (LeDoux, 2015; Stossel, 2014; Yerkes & Dodson, 1908). Given this, we would reasonably expect to find a relationship between these two variables. We were concerned with the potential impact of anxiety on team performance from *team members'* viewpoints (Q12). Correlations from this perspective were moderate and negative. It could be that team members are able to view the impact of anxiety on the team at much closer proximity (because they are a part of the team) and, therefore, relate it more specifically to the effect on the team's performance. This is an exciting finding because it shows a relationship between anxiety and team performance. It suggests that, to improve team performance, anxiety needs to be attended to.

Relatedly, we were also interested in the potential impact of anxiety on team performance and how the organization viewed the contribution of the team towards its performance (Q11). Given the similarity between questions Q11 and Q12, we might have expected similar answers. Study 2's Pearson Correlation Coefficients show small, negative and non-statistically significant relationships with both scales in Q11, however. We might have expected the findings to be significant and stronger. One reason why they are not could be is that there is tacit recognition that an amount of anxiety is necessary to promote (team) performance (e.g. Stossel, 2014) and it, therefore, requires a higher degree of anxiety present to register. Beyond this, it is likely that there are multiple variables affecting team performance and that it is difficult for respondents to link team anxiety with team performance much more strongly than is evident here. We would need other organizational and individual team performance data to show any stronger relationship and demonstrate this point.

Absenteeism is also highly relevant to team leaders because, if team members are absent from work due to anxiety-related illness, then individual, and team, performance will suffer. It might reasonably be expected that if team anxiety were present, people would be absent and, furthermore, that absenteeism rates would rise with increased anxiety. The results provide some evidence of this through the 'Intra team conflict and conflict avoidance' scale i.e. absences increase due to team anxiety related to conflict. The Study 2 results support this but we might have expected a stronger positive relationship for the 'Impaired collective decision-making and action orientation' scale. The results were not statistically significant, however.

The texts are clear that if excessive anxiety is present, and does not dissipate, then this can have adverse effects on peoples' health (e.g. Olatunji, Cisler and Tolin, 2007). We know that people suffering from work-related stress and anxiety took significant amounts of sickness absence days off work (HSE, 2014/15). While the HSE conflates workplace stress and anxiety and classifies them together, it nonetheless indicates that both are problematic at work. These support our hypothesis, with absenteeism rising as anxiety increases. Sample size and significance aside, the difference here might be explained by a number of other factors. Firstly, a significant majority of respondents to the survey were senior executives. Many were Chief Executive Officers (CEOs) or in Executive Director-level posts. This level of individual does not typically take days off work sick – unless their anxiety reaches a significantly high level, as we saw with the two high profile cases at the FSA and Lloyds Bank (People Management, Dec. 2013, p.16). In other words, the team anxiety threshold could be higher for this seniority of individual at work. This does not explain the findings for the more junior level respondents, however,

and so we must seek alternative explanations. Given the economic uncertainties over the past decade, with related concerns over job losses and re-employment, it could be that, rather than be absent, individuals choose to remain at work and ignore, or tolerate, feeling anxious. If more extreme team anxiety is present, perhaps caused by hostile behaviour from other team members, one explanation for the negative relationship is that people are just too afraid of negative consequences to call in sick: they are too anxious to report being anxious. It could be that absenteeism is still a valid indicator of team anxiety, but it might only be apparent through evidence of prolonged, and higher levels of, stress-related sickness absences. This would be even more damaging to an organization's success. If this is true, it implies a threshold model of team anxiety with higher levels of anxiety being needed to estimate peoples' true levels of anxiety. Testing this finding with a larger group of participants would help us confirm a significant relationship exists and allow us to gauge the true effect of anxiety on absence.

Cohesion is another important element connected with team performance. Cohesion is the bond that ties team members together and to the team's task. Bonded teams are more committed to team goals and the decisions and actions they make (Levi, 2014). We argue that to be willing to bond together, team members must trust one another and so sought to test this. We hypothesized that a willingness to be vulnerable in front of team members could indicate a level of trust between them. We further hypothesized that if trust were present there would be lower levels of anxiety. The results show significance, and are positive and moderately strong, and there appears some credence for the hypothesis with lower anxiety and higher trust contributing to team cohesion. This is important because teams with high degrees of trust can withstand task-

driven conflict, and promote psychological safety (DeDreu & Weingart, 2003). If these are enabling factors, the results also suggest some hindering factors towards team cohesion. Teams must become cohesive before they can start to work more co-operatively together. In other words, teams must co-operate to be effective, and achieve their goals (Ilge, Hollenbeck, Johnson & Jundt, 2005 cited in de Jong, Curseu & Leenders, 2014; Hayes, 1997). Once they do, cohesiveness impacts team performance positively (Mullen & Cooper, 1994). Conversely, low levels of team cohesion may limit team members' ability to work together (Nemeth & Staw, 1989). Conflict, arising from anxiety, affects cohesion adversely. The findings showed several areas where conflictual team behaviours, arising from anxiety, could contribute to a lack of cohesion. For example, two of the strongest findings in the present study showed reasonably strong blaming behaviours and instances of arguing (Items 13 and 20). Research has shown that, when teams are not successful, team members blame one another for the failure. In turn, this reduces cohesion (Naquin & Tynan, 2003). Such behaviour (with one team member accusing another when s/he starts to feel anxious) might be explained by directing it onto others as a means of dispersing their own anxiety (Gabriel, 1999) and may be experienced as a form of intra-team conflict between team members with consequential adverse effects on team cohesion. The study also showed a moderately strong relationship between anxiety and team members arguing – a form of conflict. One of the strongest relationships in the study was between anxiety and team dysfunction and teams that are dysfunctional tend not to perform optimally (Lencioni, 2002).

Given the findings regarding blaming, arguing and dysfunction, we might also have expected to find a relationship between anxiety and team members interrupting each

other. While the results showed a positive relationship exists, they were not statistically significant. It is likely that, while interrupting colleagues is generally seen as unhelpful in organizational life, interrupting is also seen as a normal part of team life and has become so commonplace that its effect has been minimized. This might explain why the effect size is not stronger. Nonetheless, conflict can have an adverse effect on a team ‘...through creating strong negative emotions and stress, interfering with communications and co-ordination and diverting attention away from tasks...’ (Levi, 2014, p. 129). Conflict can destroy team cohesiveness, damage inter-personal relationships and divide team members (Levi, 2014).

These behaviours are important because teams with unsolved conflicts can experience deadlocks and barriers to progress, whereas the converse is true for teams with resolved conflicts (Robey, Farrow & Franz, 1989 cited in O’Neill & Allen, 2014). Resolving task conflicts could be critical to achieving team outcomes. Surprisingly, studies have tended to concentrate more on the presence of task conflict than how to resolve it (O’Neill & Allen, 2014). The present study’s findings also point towards high levels of conflict avoidance. If team members are avoiding conflict, we might infer that levels of trust are low. We could also infer from this that cohesion is not likely to be strong. For instance, in Study 1, we saw examples of team member behaviour that ranged from being fearful of speaking up and unwilling to discuss what was not working in the team, to talking behind one another’s backs, actively avoiding each other and forming sub-groups. These are all contra-indicators of a cohesive team and potential areas of concern for a team to address. Once teams do so, there are distinct benefits to teams that are cohesive. Members of cohesive teams are more satisfied with their work than

members of non-cohesive teams (Hackman, 1992), and cohesion helps reduce stress and anxiety because members support each other. While anxiety can act as a solvent to team unification, if a team can become, or remain, cohesive, the support members then provide might help combat the effects of excessive anxiety.

Conflict arising from anxiety among team members can also affect team cohesion unfavourably. This is important because a team must first be in unison before it can actively co-operate and work effectively. Teams then need to go beyond cohesion, and collaborate. Conflict can detract from this.

Contrary to popular belief, conflict can be useful for a team (Tulpa & Woudstra, 2010, cited in Passmore, 2010, echoing Lencioni, 2002). Whether conflicts are productive, however, depends on both the nature of the conflict and how teams try to resolve them (Witeman, 1991). More productive conflicts concentrate on tasks, issues and ideas (task conflict); unproductive conflicts focus on personalities and emotions (relationship conflict). Teams try to manage task conflict co-operatively, whereas the latter are typically characterized by opposing factions within a team. Task conflict is seen as conducive to team performance (Amason, 1996). Relationship conflict is considered detrimental regardless of the type of task a team is performing (Jehn, 1995) although the evidence is mixed about its effect on performance. One view is that while relationship conflict creates dissatisfaction within the team, it does not disrupt team performance unduly. It does have an adverse impact where team members are required to work together closely and there is a high need for interdependence to complete tasks (Levi,

2014). Other researchers report that relationship conflict causes stress and negative feelings between team members. As a consequence, they do not wish to work together and may avoid contact. This disrupts performance and results. Where there is agreement is that task conflict can lead to relationship conflict. The results of Study 2 correspond with these views. The survey findings do not indicate whether team arguments are about content or people (i.e. task or relationship conflict). We have seen that the findings indicate respondents associate anxiety-driven conflict with teams being dysfunctional. Given this, it could be that team member arguments are reflective of relationship conflict, which is damaging to team cohesion and performance.

Turning to decision-making, we maintain that if teams cannot make decisions they are unlikely to achieve their work and therefore will not perform satisfactorily. Study 1, and the EFA process, showed impaired collective decision-making to be a principal factor among anxious teams. This is not surprising since decision-making is a core team activity. The literature concurs and shows success depends upon leaders, and their teams, making choices (Smith, 2014). These decisions, and actions based on them, create organizational contexts (Jarzabkowski, 2008), guide middle managers in how to respond (Floyd & Lane, 2000), and impact team and organizational performance (He & Wong, 2004). Decisions matter. While decisions are important, the team decision process is not straightforward and prone to difficulties, however. Teams may encounter problems with decision-making and are far from perfect decision-makers (Levi, 2014). For example, anxiety can result from people either knowing (or not knowing) what, or how, to contribute to decisions, which affects their ability to participate fully in the decision-

making process. Ironically, not contributing to decision-making could increase anxiety further. These findings harmonize with the literature on team anxiety and particularly Bion's (1962) 'freeze' basic group assumption. The literature also shows clearly that anxious teams have a tendency for uniformity of opinion among members (Kerr & Tindale, 2004), which results in stronger pressure being applied to converse opinions. In turn, this can lead to groupthink (Janis, 1972) or for the team to allow the leader to make a decision on its behalf (Levi, 2014). Several links between anxiety and teams' decision-making process therefore exist.

The results from Study 1 show teams reached conclusions about issues discussed less frequently, made decisions on topics discussed less often and were slower to act on any decisions they made. Given the need for teams to make decisions, these are worrying findings. Yet the findings from Study 2 all highlight non-significant relationships between anxious teams and their decision-making abilities. There, therefore, appears to be a mismatch between the literature on team decision-making and the findings, particularly with Study 2. The strongest statistical relationship are between arguing, blaming and decision-making and suggests that anxiety is highest when teams make decisions. This apart, the relationships are all lower than might be predicted. We know that decisions may be affected by biases and other internal team processes. It is possible, therefore, given Study 2 showed some relationship exists between anxiety and team decision-making, that anxiety could be inducing other group factors that affect the process by which teams make decisions. In other words, other factors (e.g. arguing, blaming) could be overriding respondents' attributions towards the presence of anxiety-driven decision-making. This aside, because anxiety appears to interrupt the decision

process by limiting the number of ideas generated, considered and debated, it is worthwhile examining this further with a bigger sample.

In the context of a study about new product development in work teams, anxiety was found to reduce team members' capability to interpret new information objectively and evaluate alternative courses of action (Kontogiannis & Kossiavelou, 1999). Other studies concur with these findings, for example, that anxious team members process information in a very polarized way with a tendency to think categorically (e.g. a situation is either threatening or not) and not think sufficiently flexibly in threatening situations (Gilbert, 1998). Conversely, when faced with a crisis and combined with managerial support, anxiety was found to influence a team's learning, speed of developing new products to take to market, and the success of these new products (Akgun, Byrne, Lynn & Keskin, 2007). It was the sense of urgency created by the crisis that created the climate for the new product development teams to solve product, process and customer problems, and develop the product on time and launch it successfully. It seems that anxiety, as a response to a feared stimulus (e.g. fear of job loss if the project failed) encouraged teams to direct their attention to the threat. This external source of anxiety overrode complacency and encouraged the team to be more efficient. In other words, anxiety in teams can be advantageous, when the team climate is conducive. This was still not enough, by itself, however.

According to Kontogiannis and Kossiavelou's research (1999), management support, in the form of managerial backing for the vision of the product project, and high

levels of encouragement to speed up the process and time to market, were also required. This help included offering high levels of emotional support and encouragement to solve problems, helping teams overcome problems faced, and providing direct help to team members when needed. While interesting, these solutions need to be treated with a degree of caution. The researchers report that the levels of crisis and anxiety measured in the study were not high enough to cause the team to become immobilized. More extreme anxiety levels can lead teams to distort information processing and decision-making and cause members to freeze. The study was not carried out under such conditions and could not conclude whether management support could achieve the benefits highlighted above for anything other than medium levels of anxiety. Furthermore, they also found no statistically significant relationship between management support and high levels of team anxiety and high levels of team crisis, and the same with low levels of team anxiety and low levels of team crisis. They did, however, find a correlation between management support and medium levels of team anxiety and crisis. Low levels of management support neither ameliorated levels of anxiety in teams, nor encouraged teams to turn crisis into urgency and, in turn, greater efficiency. Nonetheless, teams facing demanding challenges seem to benefit from active, hands-on management help and backing to aid performance.

We were interested in whether team anxiety exists in its own right and is distinct from individuals' anxiety. The results show particularly low levels of relationship between the two anxiety scales and self-determined anxiety. In other words, people do not believe they are anxious. We hypothesized that if a team showed anxiety then individual team members must also be anxious. The results proved otherwise. Although

they were not significant, they are still worthy of consideration as we are trying to establish if team anxiety is a distinct phenomenon. There are different possible explanations. One view is that team anxiety is its own phenomenon. This does not fit with the literature, however. An alternative account is one of external attribution (Heider, 1958 cited in Sanderson, 2010). This refers to interpreting our own behaviour as being caused by a given situation that the team member, or team, is in rather than through internal factors, such as anxiety. An individual can easily state that the *team* is anxious as a way of avoiding admitting that they are anxious. Given the stigma associated with anxiety at work, attribution theory offers a more plausible explanation. However, if individual team members are unwilling to admit that they are anxious, this adds to the challenge of being able to measure it, at least through self-report type instruments.

We were also interested in anxiety and job satisfaction and hypothesized that if a team member were satisfied at work then they would not also be anxious. The results show a weak relationship and are not significant. Nonetheless, the results are unanticipated and therefore valuable to reflect upon. One view of this is that people have become de-sensitized to anxiety and it is seen as normal. In tough corporate environments, anxiety could be seen as customary and therefore expected and anticipated: it 'comes with the terrain' of corporate life. Further, people at work could disassociate anxiety from those things that provide meaning and satisfaction and attribute them elsewhere. In other words, being anxious within acceptable limits does not stop people from deriving satisfaction from their work. The question remains as to what constitutes tolerable levels of anxiety and where the threshold lies before excessive

anxiety effects peoples' satisfaction. It is likely that once a surfeit of anxiety has been reached and health adversely affected, then satisfaction levels would also diminish. Team performance would likely follow suit.

In this study, we have seen that teams are key enablers of organizational performance and team anxiety identified as a factor that can inhibit or promote team effectiveness. The contribution of this study has been to define and advance our understanding of a new concept. It has given more definition to an amorphous concept through the factor analysis process and identification of two Factors ('Impaired collective decision-making and action orientation' and 'Intra team conflict and conflict avoidance' and fifteen associated items through which we might start to measure anxiety in teams). The hope is to extend this further and develop a means to measure team anxiety of teams within their context, more robustly. This offers an exciting area of future research that can help teams achieve even greater workplace results.

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Participant Ethical Consent Form

BACKGROUND INFORMATION

Title:

Characteristics of a team at work that shows signs of anxiety (Working title)

Researchers:

Declan Woods (University of Leicester) and John Maltby (University of Leicester)

Purpose of data collection:

To inform the creation of a scale to measure anxiety in a workplace team

1. Proposed aim

The current study provides an investigation into identifying possible characteristics of workplace teams exhibiting signs of anxiety. Previous studies have not proved useful in this respect.

(1) To examine possible indicators of anxiety in workplace teams

2. Detailed methodology

Design

Questionnaire based study completed on-line.

Procedure and Sample

The study will be advertised on-line via professional and specific LinkedIn groups consisting of team members and coaches/consultants that work extensively with teams.

Measures

- Demographic variables (age, gender, ethnicity, role and team role, type of team, type of organisation)
- Anxiety Scale (19 items)

3. A key consideration you will need to make before starting the study.

There is an important point to raise with you before you participate in this study. We will ask you questions about teams at work and characteristics that might indicate they are showing signs of anxiety. The survey focuses on teams rather than individual team members and, as such, does not include questions about you personally. As a result, you are unlikely to feel any discomfort as a result of being asked such questions. If they do, however, please choose not to answer them. Furthermore, if you decide to take part in the survey, but then decide to stop and withdraw, you are free to do so at any time.

At no point will you be identifiable from your answers and your participation in the study will be confidential to the lead researcher (Declan Woods). The answers to the question will not be used to make any individual assessments.

There is one additional thing we want you to do. This is so you are able to withdraw your data at a later date if you wish. As the consent form will be kept separate from your data, we need to develop a system so we are able to identify your data. For this reason there is a space provided in the survey in which you are asked to issue yourself with your own Personal Identification Number (PIN). This number can be whatever you wish it to be. Therefore, if you wish to withdraw from the research at a later date you can use this number to identify your data and we can remove it from the survey.

CONSENT STATEMENT

1. I understand that my participation is voluntary and that I may withdraw from the research at any time up until date TBC without giving any reason. I understand that to do this during the survey I can exit the EPR/SONA or use the withdrawal system available in the survey window when completing the survey. I understand that to withdraw after I have completed the survey, I can contact Declan Woods on dw214@le.ac.uk stating my Personal Identification Number.
2. My data is to be held confidentially by the named researchers.
3. This consent form will be kept separately from my data in a locked cabinet for up to a period of five years. After this the consent forms will be deleted using the University of Leicester's Waste Management Team's procedures for destroying confidential material.
4. My data, which will be in electronic form, will be downloaded from the electronic survey system, or equivalent, when the data collecting part of the study has been completed. This will become coded data. At this point I understand that the only identifier to the data that exists is the Personal Identification Number that I created in the survey so I am able to withdraw at a later stage.
5. I understand that the records of who took part in the study will be deleted from the system.
6. In accordance with the requirements of some scientific journals and organisations, I understand that the coded data will be kept in electronic form for up to five years. After this time they will be deleted using the University of Leicester's Waste Management Team's procedures for destroying confidential material on digital storage media.
7. In accordance with the requirements of some scientific journals and organisations, I understand that my coded data may be shared with other competent researchers. I understand that my coded data may also be used in other related studies. My name, PIN number and any other identifying details of taking part in the study will not be shared with anyone.
8. The overall findings may be submitted for publication in a scientific journal, or presented at scientific conferences.
9. This study will take approximately 9 to 15 months to complete.

10. I will be able to obtain general information about the results of this research by giving the researcher my e-mail address now as detailed below.

I am giving my consent for data to be used for the purposes of this study outlined.
All questions that I have about the research have been satisfactorily answered.

I agree to participate.

Participant's signature: _____

Participant's name (please print): _____

Date: _____

If you would like to receive a summary of the results by e-mail, when this is available, please provide your e-mail address: _____

Please note that this form will be kept separately from your data.

‘Psyched up but not psyched out’: An
implicit theory study of work team anxiety

Part 3: Critical Appraisal

By

Declan N Woods

University of Leicester

2017

Supervisor: Prof. J. Maltby

A thesis submitted in part-fulfilment of the requirements for the degree of PsyD of the
University of Leicester, Department of Neuroscience, Psychology and Behaviour

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1. Introduction

This is a critical appraisal of the research process based upon notes made in a reflective diary throughout its duration. This paper comprises a detailed critique of the research methodology and specifies its strengths, limitations, contributions and opportunities for further research.

In the order of the primary research process, the appraisal examines the research process as a whole and highlights key, personal learning from it. The critique is written in the third person, and personal learning in the first person.

2. Critique of the research methodology

2.1 Study 1

2.1.2 Procedure – Developing items for a scale

The abstract nature of anxiety was recognized in the literature i.e. that it is a subjective area, meaning different things to different people, and that people experience anxiety in various ways (de Board, 2000). The study adopted an implicit theory approach to examine this as a way of accessing people's views and beliefs about anxiety in teams at work. An implicit theory approach is, by its nature, an inclusive process because it asks participants to describe their experiences – in this case, of anxiety. As such, to develop items for a scale in Study 1, four people with experience of being a part of a team compiled a list of descriptors of teams perceived to be exhibiting anxiousness. Profiles of these four people are described in Study 1 in the main research paper. They did this by writing as many characteristics they could think of that described teams exhibiting anxiety to collate into a list of potential items. As the concept of team anxiety was designed for teams, starting the research by

seeking input from experienced team members would provide high face validity.

Rather than using arcane psychological language that can be difficult for lay team members to understand, an implicit theory approach employs phrases used in the workplace, with the initial descriptor creation exercise eliciting these phrases. In the researcher’s experience, using contextually contingent language is important in an occupational setting for a tool to be accepted by a team before it will consider using it. Implicit theories, therefore, set the research off on the right track in this regard and proved a real strength of the work.

2.1.3 Procedure – Data gathering and testing items

Following the development of the items (above), the items were tested and the factor structure determined using a questionnaire distributed through SurveyMonkey before appropriate statistical tests were conducted using The Statistical Package for the Social Sciences (SPSS).

Use of SurveyMonkey as a means of gathering questionnaire data, while not entirely intuitive to use, generally worked well: the survey looked professional in design, was clearly laid out and easy for participants to follow and work through. The response rates to the survey questionnaire for Study 1 were as follows:

| Invites | Responses | | | | | | Total response |
|---|------------|-------------|--------------|---------------|---------------|-------|----------------|
| | E-m 1 * | E-m 2 ** | Weblink 1 | Web link 2 | Web link 3 | Other | |
| 300 | 103 | 25 | 0 | 72 | 0 | N/A | 200 *** |
| Notes: E-m 1* and E-m 2** refer to invitations sent directly to Study 1 survey respondents via SurveyMonkey. Web links 1 and 2 refer to a link to complete the Study 1 survey included in the researcher’s work e-mail signature block and on his social media profiles (e.g. LinkedIn). *** 200 total responses were received although only 194 were usable, however, due to missing/incomplete data. | | | | | | | |

This table shows a 66% response rate to the questionnaire. It is believed the straightforward layout and clear instructions contributed to this high completion rate. This is a very pleasing reaction and high conversion rate from requests to responses. Analysing this further, we can see that most of the responses came from an e-mail request (via SurveyMonkey), followed by those from the second web link. The e-mail was a direct approach to people known to the researcher whereas the response to the web link came from postings to specific professional groups on LinkedIn, with the researcher being part of these on-line group communities. This suggests direct, and personal, approaches work effectively. It is not believed that the personal approach influenced the results obtained. While contributing to a high response rate, approaching people known personally to the researcher may have skewed the respondent profile towards more senior team members/leaders. This is discussed separately in sections 2.2.1 and 4.1.

2.1.4 Procedure – Extracting the factors

We were interested in any relationship between the 15 items describing team anxiety and ‘rotated’ the factors to provide us with a much clearer depiction of which items loaded onto which factor using an oblique rotation test. The clearness of this loading suggests that we extracted correctly and have a clear interpretation of the data. This clarity is important so that we can continue to label, or name, the factors and is a pleasing outcome of this stage of the research.

2.1.5 Procedure – Naming the factors

The researcher named the factors based upon descriptions of those variables that loaded onto one another. This was carried out independently and, as such, their names could be subject to researcher bias. Taking factor one, ‘Intra team conflict and conflict avoidance’, it could be that the researcher’s tolerance to this is especially low or high, i.e. he might be particularly sensitive to, or case-hardened from, hostile-related behaviour that differs from others subjective experience of conflict, leading to a less suitable label for the factor being chosen. In itself, this could mislead users or practitioners as to what team anxiety is measuring. Again, seeking others views on titles for these factors would help offset the potential for this.

For now, we are confident that the names chosen describe the factors clearly, and that these titles are compelling enough to capture, and direct, team leaders’ attention to aspects of team anxiety that are pertinent to their team.

2.2 Study 2

To help offset the possibility that the descriptors of team anxiety were produced in isolation from the ‘real’ world and had been created (by the participants) solely for the purposes of this study, Study 2 sought to test their usage. In other words, we wished to gauge whether teams recognized, and used, the descriptors of team anxiety in practice, and that a three-factor model was relevant to teams. To do so, a scale was constructed that could be used as an overall scale score to assess the degree of anxiety present in a team at a point in time. This is commented upon separately in the Personal Learning section. After creating the scale, we ran Pearson Correlation Coefficients to determine if, and how much, a relationship exists between anxiety and the three scales. The following sub-sections critique this part of the study.

2.2.1 Participant representativeness

The number of participants for Study 2, while adequate, was still small ($N = 53$). Of this number 93% identified themselves as White European, 53% described themselves as being in team leader roles, and over half were from business, financial or professional services sectors. In other words, the participant profile was not reflective of teams in general. For example, there were no Asian participants, few participants with low levels of experience working in teams, and many sectors were unrepresented. By way of further example, it might be that (the 53% of) team leaders experience team anxiety differently from team members. We, therefore, need to treat the findings with caution in terms of their generalizability to teams at large. It could be that separate, but related, studies are carried out to determine whether there are any differences between team leader and team member factors and findings regarding team anxiety. This creates the opportunity to both repeat and extend the study with larger samples to increase their representativeness, and to compare and contrast team leaders and members, which should give us greater confidence in the results. This theme is discussed further in Section 4.1.

2.2.2 Pearson Correlation Coefficients

This aside, the Pearson Correlation Coefficients proved useful in gauging the potential utility of the two-factor team anxiety model. The evaluation questions posed during Study 2 proved valuable – to varying degrees. For example, the question ‘How well is your team performing against *your* expectations?’ (Q12) produced expected results in that it showed a negative relationship, all be it a small one, between performance and anxiety against expectations i.e. team performance decreases as anxiety increases against respondents’ expectations. Similarly, the findings on

decision-making harmonize with the literature on team anxiety and, particularly, Bion's (1962) 'freeze' basic group assumption. Other questions, such as 'How high is absenteeism at work?' (Q16), while producing unexpected results that neither fitted the hypothesis, nor the literature, still proved useful in encouraging consideration of alternative explanations. For example, low levels of inter-personal conflict might be present and cause anxiety, but may be insufficient to trigger a team member's sickness absence. This recognition could lead to a more nuanced model of team anxiety emerging.

3. Procedure – Designing the Study

Gaps were identified in the texts during the literature review and it emerged that no operational definition of Team Anxiety existed. As such, Study 1 was designed to address this gap. On reflection, it may have been advantageous to try to address some of the following issues as part of the original primary research to create an even clearer operational definition of team anxiety from the outset. For example, the literature review concluded with an operational definition of team anxiety including that it may consist of a mixture of both trait and state anxiety, start with an individual team member and spread to the rest of the team or *vice versa*, that it exists at the whole team level, and that it can affect team performance. The primary aim of the study was to create an operational definition of team anxiety and start to consider how it might be measured in teams. The study was designed to achieve that. In this respect the choice of research design and approach was suitable, and worked well. However, there were perhaps also opportunities to arrive at an even clearer operational definition of team anxiety through, for example, differentiating between individual trait and team level anxiety (by measuring this in some individual team members and

comparing this with team levels of anxiety), and the directional flow of team anxiety (whether it can also spread from the team to individual team members.). The more constrained size of the present study mitigated against including these in their entirety, however, and subsequent studies can still address them. Other gaps, such as how much anxiety is useful for a team to possess to stimulate performance, are still outstanding and could form the basis of future studies. This is addressed in Section 5 of this critique.

4. Strengths and contributions

The literature review concluded that, while the pervasiveness of anxiety (Yuen, 1998) has led to a significant body of research on it in individuals, anxiety remains an amorphous concept to define, understand and assess accurately in teams. Attempting to define team anxiety more clearly brought critical gaps in the literature into focus. A chief contribution has been to start to define a new concept that was previously not easily understandable. This is significant because an implicit-based theory of team anxiety can lead to the creation of more formal theories of the construct that is missing from the literature at present. The present study reflects the start of the development of a new more formal theory. It has begun to fill some of the current spaces and the following section, highlighting areas for on-going research, will create a path to start to fill this void further and in a more targeted way.

The Literature Review paper acknowledged the stigma associated with anxiety in a work setting and team leaders' inhibition in admitting their teams are anxious. This study starts to improve our understanding of a previously intangible concept, and, based on this, can be used to start to educate teams and their leaders about team

anxiety and its merits, and demerits. This study, therefore, puts an important topic onto organizations' agendas.

Beyond this definition, the study has also contributed to the beginnings of a model of team anxiety based upon two factors ('Intra team conflict and conflict avoidance' and 'Impaired collective decision-making and action orientation') identified during the primary research. This conceptualization takes us closer to being able to translate the concept into a useful model for teams and team practitioners. For example, practitioners (e.g. team coaches; consultants), while realizing that anxiety may be present in a team, have, so far, lacked a robust means of measuring the concept accurately. This research provides the start of an approach to do so. The findings of the study can, once disseminated, help make teams aware of the consequences of team anxiety so they can start to consider whether they have sufficient anxiety for optimal performance, without suffering from an excess of it. Further studies, below, will increase the confidence in its utility and practical application and allow the development of a tool for teams to use.

5. Limitations and opportunities for further research

5.1 Participant representativeness including potential age-related differences

There are several limitations to the present study that should be addressed. Firstly, the sample size, though sufficient for factor analysis to be carried out on it according to the Kaiser-Meyer-Olkin (KMO) test and Barlett's test of sphericity is still small and does not represent the population of adults in work teams adequately as highlighted previously. The generalizability of the results is, therefore, limited to a similarly profiled sample. For example, as we discussed in Section 2.2.1, many of the

questionnaire participants were board or executive-level members of teams. This study could be replicated with members from non-leadership teams and functional teams consisting of members spanning different organizational levels to obtain a wider perspective of team anxiety.

Similarly, in terms of sector, business services, management consulting, education and health were all well represented with 14, 17, 12 and 30% of survey respondents respectively. We can be confident in the applicability of results in these contexts. There were no respondents from the construction, utilities and local government (public) sectors (and only 1% from IT/telecoms); all such sectors make extensive use of team working. To give confidence that measures of team anxiety are widely accepted across industries, the study would need to be replicated across a broader range of sectors. Sectors making active use of teams (e.g. construction or the public sectors) would make an obvious starting point to repeat this research in future.

Related to their age, questionnaire participants had significant amounts of experience working in teams (18% had more than 11–20 years' experience; 47% had 20+ years' team working experience). Inevitably, this meant that questionnaire respondents were older in age. While this gave them considerable experience on which to base their views of team anxiety, it remains unclear whether they may evaluate team anxiety symptoms differently in older adulthood than with younger age-profiled teams or teams with members of more heterogeneous age categories. It could be that scale items established for older adults may be less appropriate for predominately much younger, or even very much older, working team members. For example, so-called 'baby boomers' (those born between 1948 and 1963) started work

when economies were growing and competition was fierce, and built their careers on a strong work ethic (CIPD, 2008). This group of workers may associate anxiety as something to be endured, or overcome through working ever harder, and therefore self-assess their degree of team anxiety as relatively fixed on team anxiety scales. Similarly, ‘Generation X’ (people born between 1964 and 1978) entered work during a time of instability, increased diversity and significant change (Smola & Sutton, 2002 cited in Palmer & Panchal, 2011). Given this, they may experience change as an everyday part of organizational life and associate anxiety as normal. As such, they might rate team anxiety scale items lower than team members from other generations. Generation Xers are also often seen as particularly individualistic (Jurkiewicz & Brown, 1998 cited in Palmer & Panchal, 2011) and so may rely less on a team, or the team leader, for support. The literature review highlighted the advantages of peer support when teams were faced with anxiety (e.g. Akgun, Byrne, Lynn & Keskin, 2007). Generation X team members might experience anxiety more keenly, particularly if they have experienced successive, and excessive, organizational change, which would likely elevate their team anxiety scale scores. Relatedly, it could be that age is an amplifier, or modifier, of anxiety in individual team members. Testing this explicitly with different age categories in future research would highlight generational differences in attitudes towards team anxiety and how it is experienced and rated.

5.2 Understanding the ‘lived’ experience of anxiety through qualitative studies of team anxiety

The present study has focused on quantitative measures necessarily to provide more clarity on a hard-to-grasp concept. Beyond this, there is scope to understand teams’ lived experience of anxiety – what does it feel like for a team to *experience* anxiety,

and how might this change over time as the team's anxiety' changes. Qualitative examinations could help in this regard. The main research paper highlighted alternative possibilities such as a grounded theory approach or thematic analysis. Relatedly, understanding how team members interpret individual scale items may provide additional clarity on the subjective experience of team anxiety and its assessment. For example, scale modifications may be necessary to assess the subjective experience of team anxiety more accurately across a broader range of the working population. Carrying out additional studies examining the *lived* experience of team anxiety with an even more diverse population of team members may serve to provide researchers with additional insights. This will help us understand how individual team members may experience anxiety differently in the same context. In turn, this would provide more clarity on the linkages between individual anxiety and team anxiety.

5.3 Timing the assessment of team anxiety

Another important element to consider is the timing of the assessment of team anxiety. If team anxiety is situational and variable, the timing of the assessment is particularly important. More specifically, if team anxiety is measured entirely separately from a team in context (as in this study), and that context is a contributor to the anxiety, then a different (e.g. lower anxiety level) score would emerge than if, say, the team completed the assessment 'in the moment' while carrying out its everyday work where team anxiety was known to be present. Furthermore, it could be that assessing team anxiety separately from the team could lead to different results. For example, measuring team anxiety during a team interaction could lead to findings showing the results of team anxiety (e.g. reduced co-operation) rather than direct

behavioural markers of team anxiety (e.g. withdrawal, hostility). Care therefore needs to be taken over the timing, and environment, of team anxiety appraisal. It would be interesting, in future studies, to conduct team anxiety assessments at different times and compare and contrast the effect on the score and findings.

5.4 Assessing team anxiety over a team's lifespan

Teams change over time (Tuckman, 1965), and anxiety with it. Wheelan (1994) linked Bion's (1961) work on group assumptions (and associated anxieties) with the stages a group, or team, goes through as it matures and develops. Her work usefully provided a means of measuring team anxiety in an organizational setting. The first stage of group development is characterized by concerns about safety and inclusion, and substantial member dependency on the elected leader. In this stage, members rely on the leader and powerful group members to provide needed direction. Anxiety is typically high while a team is setting up. Later in a team's maturation, members work to solidify positive working relationships with each other based on trusting relationships and more mature negotiations about roles, organization and procedures. There is less anxiety at this stage. This degree of anxiety continues as a team moves into a phase of maximum productivity and effectiveness. However, teams facing pending termination (e.g. a due to a project being completed) may cause disruption and internal conflict, which can cause anxiety to surface (Wheelan, Davidson & Tili, 2003). If anxiety were assessed in a team's early days, or weeks, post-formation, or towards the end of its lifespan, team anxiety scores would be high; whereas, in the middle phases of its life, the scores would be quite different. Gauging the stage of team development is an important consideration in both the timing of any assessment and also with any profile produced. In addition, future studies could show how team

anxiety changes over time and whether it reaches equilibrium. For example, if a team were shown to possess high anxiety during the lead up to a project deadline, does team anxiety subside afterwards and, if so, over what period? If the team has successive deadlines do team anxiety levels recede and re-set back to a baseline between anxiety-inciting incidents or events, or does it remain constant once a certain amount of team anxiety has been reached? Further studies would help provide answers to these questions.

5.5 Assessing teams in context

5.5.1 The effect of team anxiety by changes in organizational context

Wheelan's work (1994) is a useful addition to understanding teams and their anxieties at different stages of development. It does, however, miss an additional dimension in that she assesses teams outside of their organizational context. We know context to be an important contributor to a team's anxiety from the work of Klein (1975b), Bion (1963), Hirschorn (1990), Wheelan (1994) and Wheelan et al (2003). For example, Wheelan et al (2003) informs us that anxiety is high in teams in the context of being newly formed, which can then reduce over time if, and when, the team matures and develops. A change in this context, such as impending team termination, may cause disruption and conflict in some groups, which can cause anxiety to re-surface. Learning from this, this study has started by attempting to define a new concept before continuing to establish the effect of different contexts and situations on team anxiety in future studies.

Organizations need people to operate and behave differently depending upon not only its current state, but also its desired future state. For example, an organization

pulling out of a steep decline, and in turnaround, will need its leaders and teams to behave differently from an organization with long product lifecycles in stable markets in a steady state (Watkins, 2003). Wheelan's model does not reflect the idea that the organization may need a team to change to meet changing business needs. If there is a difference between a team's current, and required, way of working, anxiety is likely to be triggered. These factors all point to being mindful of the timing, current context and future intentions of organizations in which teams work.

The literature review highlighted the importance of the context in which a team operates as an important factor, not least because this, in itself, can be one cause of team anxiety, as discussed earlier in Section 4.5.1. For example, in the study by Woods (2014), he observed a number of teams in action across a range of sectors using Wheelan's (1994) observation method. He noticed that teams exhibited anxiety when facing change, but those organizations facing externally driven change (i.e. from outside of their own organization) displayed the most team anxiety, with the organization representing the context for the team. Given this, developing context-specific means of assessing team anxiety appears relevant. This is a particular gap given that our empirical understanding of teams has largely relied upon laboratory-based studies – typically with student, rather than working, populations, which are poor reflectors of organizational environments (Offerman & Spiros, 2001) and ones unlikely to give teams or practitioners much confidence in their applicability. Although this is starting to change, and more field-based research starting to emerge (e.g. Cohen & Bailey, 1997), studies that compare team types across contexts are still scarce, and present a further opening for future studies.

5.6 Assessing intact teams

Anxiety exists in whole teams (Hirschorn, 1990) and team anxiety was conceptualized as a whole team construct in the present study. Participants were, however, discrete members of teams, i.e. they were not members of the same team. It is not therefore clear whether they based their replies to the questionnaire as a member of a specific team, or a team in general. There is scope to repeat the research using intact teams and compare the results. This would be more reflective of organizational reality and of greater use to practitioners since, inevitably, their work is most likely to be with existing, whole teams.

A weakness of the study is the potential degree of overlap between team anxiety representing the whole team, and anxiety among individual team members. This needs further testing. There are many measures of individual anxiety (Caballo, Salazar, Irurtia, Arias & Hofman, 2010) and assessing this in team members, while also assessing anxiety in the whole team, would help us start to confirm whether team anxiety is a whole team construct and the hypothesis holds true.

Another limitation of the study relates to the nature of self-report instruments. Like all self-report instruments, the team anxiety model is subject to response bias – some individual team members may amplify their (anxiety) symptoms, whereas others may minimize them. The effect of response bias in self-report psychological instruments measuring anxiety in work teams has received minimal attention to date. Additional exploration and research in this area is merited to understand the applicability of the team anxiety model with other work teams.

5.7 Moderators and magnifiers of team anxiety

We know that too much, or too little, anxiety can cause problems for teams (LeDoux, 2015). It is recommended, therefore, that researchers explore potential moderators and magnifiers of team anxiety. For example, the setting in which a team operates affects phenomena like team member-leader interactions (Mullen, Salas & Driskell, 1989) and we know that conflict between team members and leaders can effect team anxiety (e.g. Wheelan, 1994). It is possible that group size and team member tenure – intra-team factors - could well moderate the extent, and dissemination, of team anxiety.

While an instrument to measure team anxiety at a given point in time (e.g. during a known anxiety-provoking event or project) can appear seductive in its simplicity, this may be insufficiently sensitive to keep pace with how team anxiety changes over time as the team context (and anxiety levels) change. Further development of the team anxiety construct would allow a more nuanced understanding of team anxiety and how it fluctuates over the duration of a team's work and life and how best, and when, to measure it.

Equally, the literature highlighted the role of supportive management in promoting positive effects of anxiety in teams (Akgun et al., 2007). We know that team anxiety can be a double-edged sword and further research would help us arrive at a clearer understanding of the enabling and hindering factors that would allow teams to develop an optimal amount of team anxiety for maximum performance. Relatedly, establishing the range of anxiety and possible interventions to reduce team anxiety (if it is too high) or increase team anxiety (if it is too low) would also be beneficial to teams.

6. Implications for practice

Organizations' use of teams is growing (Levi, 2014) and team specialists report that 30% of their practice is devoted to work with groups or teams (Offerman & Spiros, 2001). Practitioners advise that they find empirical studies hard to reach and hard to understand (Alkin, Daillak & White, 1979) and academic research not particularly relevant to their needs. Although their work is informed by a range of theoretical perspectives on teams (e.g. Bion, 1961; Tuckman, 1965), there is no one dominant, or unifying, theoretical perspective in the field of team development (Offerman & Spiros, 2001). While this presents practitioners with a choice of approaches, it does not provide clarity on best practice; the lack of practitioner-oriented, real-world research on teams, highlighted earlier, could leave practitioners uninformed about which intervention works with a particular type of team on a given issue or opportunity. These all leave identifiable gaps to close the researcher-practitioner divide and inform team consultants' practice. An appropriate place to start is to translate the existing research into a digestible format that practitioners want to access and can use with teams practically.

Returning to team anxiety specifically, the present study points to the multi-dimensionality of team anxiety revolving around two factors: 'Intra team conflict and conflict avoidance' and 'Impaired collective decision-making and action orientation'. Although all dimensions were clearly represented, the 'conflict' factor contained the largest number of loaded items. Nonetheless, both factors, and associated items found in our research, could be used as specifiers for a diagnostic model of team anxiety, thereby giving much more information about the type of situations teams find anxiety provoking.

One contribution team anxiety makes is that it is possible to measure anxiety with two dimensions (factors) and therefore provides two scores, one for each dimension. Although these factor ‘scores’ can be summed to provide an overall score, which may have some benchmarking value (e.g. how one team compares with another in the same sector etc.), this provides little diagnostic information. A more granular set of scores by factor has the potential to provide information about the types of situation teams find most anxious. In turn, this is useful because the team can anticipate its reaction to a given situation and develop a suitable strategy to manage the anxiety that arises. The intention is not to create a binary model of team anxiety where a team can be categorized as either anxious or not, which would not be that helpful. Rather, it would allow a more nuanced approach that would enable a team to understand the degree of anxiety that exists at any one time, alongside a clearer understanding of whether a situation might warrant an increase or decrease in its level of anxiety to achieve optimal performance.

Regardless of whether team anxiety is generalized, the identification of specific situations that teams find anxious, might inform practitioner interventions to help teams. For example, practitioners could develop interventions for teams based upon the different factors with a themed modular workshop for each (e.g. how to deal with conflict; how teams make decisions; how to respond to hostility).

7. Personal learning

This section reviews my personal learning and is written in the first person.

7.1 HCPC Practitioner Standards

I am an Occupational Psychologist registered with the Health and Care Professions Council (HCPC) (<http://www.hcpc-uk.org>) and, as such, my work is governed by

their standards of proficiency for practitioner psychologists (HCPC, 2015). While I am expected to be competent across the range of professional standards, the HCPC recognizes that experienced practitioners' work can become more 'focused and specialized...' (HCPC, 2015, page 4) than newly qualified psychologists. As a practitioner of many years standing, I fall into the HCPC's 'experienced' category. Part of my motivation to study the PsyD was to deepen my knowledge in the areas of team functioning (HCPC Standard 14.86), while also acquiring new skills in applied research (HCPC Standard 14). I have achieved both aims through my PsyD studies and continue to learn (HCPC Standard 3.3). In terms of teams, I have learned about team life stages and maturity, the importance of teams to organizations and how teams are deployed to deliver organizational goals, the effects of anxiety on individual team members and teams as a whole, and ways of assessing this (individually and collectively, the latter through Sandra Wheelan's work, 1994) (Standard 14.86).

Against the HCPC Practitioner Psychologist Standards (2015), writing the main research paper has updated my ability to:

- evaluate research and other evidence (Standards 14.26 and 14.27) through conducting the literature review,
- understand research design (Standard 14.28),
- use applicable enquiry techniques to gather appropriate information (Standards 14.9 and 14.29),
- critically analyse and evaluate information collected (Standard 14.19),
- make informed judgements on complex issues (Standard 14.10), and
- summarize and present complex ideas in an appropriate form. (Standards 14.9 and 8.11).

Hay tells us: 'The point of reflection is to enhance capability.' (p.8, 2007).

This critical appraisal has reminded me of the value of reflection and incorporating lessons learned back into my practice (HCPC Standard 11.1). I re-read my research-based book chapter on reflective practice (Woods, 2011 cited in J. Passmore, 2011). The evaluation paper encouraged me to think about the value of research to the critical evaluation of practice (Standard 14.24) and about the practical application of psychology at a much earlier stage of 'product' development, and has given me practice in conducting service evaluations (Standard 14.32).

7.2 Specific personal learning

More specific examples of my learning from the PsyD course include:

- Quantitative focus: This study has been predominantly quantitatively based. It became apparent that my knowledge of SPSS and statistics had atrophied since my earlier studies and I needed to go 'back to basics' to refresh my knowledge and skills in several areas. For example, it has been several years since I used The Statistical Package for the Social Sciences (SPSS) and I needed to complete several worked examples to improve my competence. Similarly, in statistics, I needed to refresh my knowledge about factor analytic techniques. I found 'not knowing' hard to reconcile and it difficult to become a student-learner again. Getting into the work and setting aside regular study time helped me maintain momentum and progress.
- Computing a scale: The main study required me to compute a scale, which I had not done for many years and, again, I had to re-learn this skill. We were interested in using the items to compute an overall scale score to assess the degree of anxiety present in a team at a particular point in time. Unfortunately, I reversed the scale

items, which had the unintended consequence of reversing the results, i.e. positive correlations became negative and vice versa. This produced an unexpected set of results, which, unsurprisingly, I found hard to explain. Once my mistake was recognized, the scale was re-computed and the current findings produced.

- Negative questionnaire items: Survey questionnaires typically use a Likert scale to rate respondents' answers. To check respondents do not answer all question items with the same response, negative questions are sometimes included. Initially, I found it difficult to differentiate between question statements that could be perceived negatively and genuinely negative questions. For example, Item 13 in the questionnaire read: 'The team acts too quickly on decisions it has made.' and is not a negative question per se although the consequences could be negative for an important decision made in undue haste by a team. This was useful learning in understanding the difference between the two. In future questionnaires, I will be prepared to include negative questions with reverse scored answers.

7.3 Beyond standards and competencies

Other personal learning, which goes beyond the constraints of professional competencies, includes:

- Storyboarding: Anxiety is a multi-faceted construct and, as a result, there were numerous and related elements to the literature review. This created different starting points from which to begin the review. Deciding upon the best possible fit between the parts, and creating a logical flow to the storyline, took some time and meant that I re-wrote the review 2–3 times. Inevitably, this took more time than expected, the re-work proved frustrating and I became 'snow-blind' from having looked at the drafts so many times. Creating time and space to step back and look

at the drafts from a fresh perspective proved invaluable in giving me the objectivity to re-create the storyboard. Supervisor input also helped in this area. Through this process, I developed my writing skills.

- Isolation: The hardest part of the PsyD studies was the sense of isolation I experienced. Although part-time, previous studies had always been in a cohort. Bar the supervisory relationship, I had no contact with other students. In fact, I was not aware if other students were studying for the degree at the same time. I felt alone and had no one to discuss the work with, which was especially hard when encountering new, or forgotten, material or techniques. This would have proved invaluable both when I encountered new topics (or very old ones that needed re-learning) and wanted to check my understanding with a peer learner or, for example, to use another research student as a sounding board (e.g. to discuss the significance of my findings). I am left wondering if this is the nature of a part-time doctoral degree and a typical pattern of working life in academia. It is far removed from the business world where my experience lies. My learning here is to find, and put in place, a range of support mechanisms. Foremost among these would be moral, and technical, support in the form of a group of peer research psychologists with whom to discuss my work informally.

7.4 Implications of personal learning for career development

I believe the PsyD will help me in my professional career as an Occupational Psychologist through:

- Broadening my research orientation from qualitative to quantitative methods: Previously my preferred orientation was using qualitative techniques. I have learned (and re-learned) quantitative procedures and used them in an applied way.

I now have the skills, and confidence, to do so again in future on related, and new, pieces of research.

- **Critical analysis:** D-level work has improved my critical appraisal and analytical skills. I am now more likely to test claims made about others' research findings, or practice, than accept them at face value. This will add more depth to my understanding and I can add more value to client work.
- **Practical application:** The literature review highlighted that there is no one dominant theory of team or team tool used by practitioners. There is scope to develop the team anxiety tool further and offer it to practitioners to help meet this need and find practical ways to help teams in need.
- **Thought leadership:** The concept of team anxiety is a new one. As such, there is an early advantage in being the originator of a new construct, particularly if it is found to have practical application for, and brings tangible benefits to, teams. Further work is needed on the latter and in promoting it. Writing articles for the popular management/practitioner press and in scientific journals will help both build professional credibility and market awareness of team anxiety. I am exploring options to publish this work and disseminate the knowledge gained to both the practitioner and academic communities.

8. Conclusions

We have concluded that team anxiety is a much-neglected area of study with many potential avenues for future research. These arise either out of opportunities to overcome limitations of the current research, or as means of extending its usefulness still further.

The present study has made a small, yet significant, contribution to both academic understanding and practitioner utility of team anxiety – until now, a hard-to-grasp concept that has been difficult for teams to use practically. This study has put a somewhat less organizationally desirable, yet commonplace, topic onto the organizational agenda. In other words, it has highlighted that team anxiety is not a wholly negative concept but one that can have significant advantages to teams. The team anxiety construct can, for example, enable teams by helping them identify areas impacting upon cohesion and co-operation as well as other areas directly contributing to team performance. This will all help team leaders re-frame their view of a team with anxiety and see it in a more positive light. With the ascendancy of teams at work under pressure to perform, and teams' importance to organizations, being able to assess team anxiety accurately looks to become a must-have organizational capability.

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‘Psyched up but not psyched out’: An
implicit theory study of work team anxiety

Part 4: Service Evaluation

By

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2017

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A thesis submitted in part-fulfilment of the requirements for the degree of PsyD of the
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Executive Summary

The aim of this evaluation study was to gather opinions on the feasibility of introducing the team anxiety construct to teams in the workplace. Experienced team leaders, members and practitioners were recruited as a steering group, interviewed, and their views elicited on whether team anxiety has merit, and the steps to introduce it to teams. Several useful findings arose from this evaluation.

Encouragingly, steering group members recognized team anxiety in work teams, agreed with construct, could not identify major omissions, and thought teams would value it. This study confirmed suspicions about the stigma still associated with workplace anxiety and the potential challenges in introducing team anxiety. For example, members believed teams find it difficult to discuss anxiety and find it even harder to address conflict and hostility. Members thought the team anxiety concept would give teams a way to discuss a difficult topic, and its granularity would give them more specific language to describe their experience of it. It was considered useful to have interventions available to help teams respond to anxiety.

A gap remains in showing the impact of anxiety on a team at work, which would help organizations wake up to the dangers of not addressing it if anxiety becomes disproportionate in teams. As important is to understand the optimal amounts of anxiety teams need to succeed. This is an essential gap to fill given team-organizational performance links. It will also serve teams to understand the situations they find anxiety inciting so they can manage them proactively, or seek the conditions for optimal success. Members endorsed team anxiety and its potential benefits for teams and suggested ways it could be introduced including in leadership development

programmes, or measuring it when setting up a new team or when a team has become dysfunctional. The granularity of team anxiety can help teams pinpoint areas of difficulty so they can act to limit, or overcome, it. Several actions were identified to introduce the work to teams: gathering feedback from additional members on *practitioner* perspectives of team anxiety; continuing the research to understand the contexts that might contribute to increases or decreases in team anxiety and the moderators and intensifiers of this; helping teams understand the amount of anxiety needed for optimal performance; understanding leaders' effects on team anxiety; testing the measure with intact teams across a range of dimensions (e.g. size, sector, ages); understanding the impact of anxiety on teams and disseminating the findings to promote a better awareness of team anxiety in organizations; and developing interventions to help teams respond to their anxiety.

1. Introduction

This is a small-scale study related to the feasibility of the team anxiety construct with teams in the workplace. This paper comprises of an overview of the methodology undertaken, the results from the review, and discussion thereof, and a section concluding with the implications of the evaluation for practice.

The related literature review highlighted that teams are the mainstay of organizations (Cohen & Bailey, 1997) and key to their performance (e.g. Guzzo & Dickson, 1996; Wilson, Goodman & Cronin, 2007). However, teams can become dysfunctional due to anxiety (Thornton, 2010), which affects their, and their organization's performance (Sharma, Roychowdhury & Verma, 2009). Teams matter to organizations, and anxiety matters to teams, but gauging the anxiety needed by teams to perform has proved challenging. There are numerous measures of it available (see Caballo et al., 2015) although these typically assess individuals (and not intact teams), and are methodologically and psychometrically flawed (e.g. Caballo, Salazar, Irurtia, Arias & Hofman, 2010), which affects their robustness and our confidence in their ability to produce useful insights for an anxious team. Beyond psychometric tools, existing means of measuring anxiety rely mainly upon observational studies (based around Bion's (1962) work on groups), are labour-intensive (e.g. Wheelan, 1994, Wheelan Davidson and Tilin, 2003), and the time they take to derive useful data could miss the opportunity to be practically useful with teams in immediate need. Given the prevalence of, and increase in, team working in organizations (Boni, Weingart & Evenson, 2009; Chen, Donahue & Klimoski, 2004; Levi, 2014), and the limitations of current means of assessing team anxiety highlighted, there is a need to

find a measure for team anxiety. This study sought to meet that gap and define a construct that would be useful to teams in practice.

Team specialists similarly account for the uptake in entities' use of teams, reporting that 30% of their practice is focused on groups or teams at work (Offerman & Spiros, 2001). Despite this increase, practitioners report no one dominant model of team theory or overriding use of a particular team approach or methodology, leaving them left to guess about best practice approaches and a gap to meet teams' needs. As such, teams, and practitioners working with them, are both likely to find real value in a way of measuring team anxiety to optimize performance and support the team, respectively.

The context for this study is teams in the workplace. We are referring to teams in the broadest sense (e.g. size, composition and length of tenure) and from across a range of sectors and settings.

2. Rationale/aims

The aim of this evaluation is to understand how best to introduce the team anxiety construct to teams so that they can work with it in a way that is useful to them. To progress towards this position, we wanted to obtain some feedback on teams' likely reactions to the concept, the main elements it measured, its potential value and the steps involved in how best to introduce team anxiety practically.

Several highly experienced team leaders and team practitioners contributed to the study, initially through generating items for testing. They remained interested in

the study and its potential, and how, subsequently, team anxiety might be useful to them in their own work, whether that be as a team leader or team practitioner. As such, and given their interest in the research and its outputs, they were an important constituent to test out the utility of team anxiety in practice before introducing it to teams more widely.

As this paper relates to the integration of research into applied psychological practice, it is informed by the Health and Care Professions Council standards, and specifically Standard 14 ('...applying psychology across a variety of different contexts...') (HCPC, 2015, p. 20), among others.

3. Methodology

The causes and felt experience of anxiety remain highly subjective (Hopko et al., 2003) and personal to each individual team member even though a whole team may have experienced the same triggering event. Understanding human behaviour from the participant's perspective is, therefore, key (Collis & Hussey, 2003) and an overly structured positivistic research design may constrain the results by downplaying, or ignoring, more relevant data arising during the evaluation. Collis and Hussey's (2003) criticism of the positivistic paradigm that 'researchers are not objective, but part of what they observe. They bring their own interests and values to the research.' (p. 54) is significant here since we wish to capture these very interests and use them to help introduce team anxiety in the most useful way. This part of the study, therefore, seemed best suited to a phenomenological paradigm. Doing so will also balance the strong quantitative (positivistic) approaches used to gather data in the main research study.

3.1 Steering Group members

As several team leaders/members and team practitioners had participated in Study 1 (item generation) they formed a ready-made steering group for this evaluation. Not all members were available during the period of this service evaluation, however, and so additional members were sought. Fifty per cent of those that participated in Study 1 did so again here and a further 50% of members were recruited for this evaluation. They were selected on the basis of their experience of working in, or with, teams, either as a team leader or team practitioner. All were known personally to the evaluator, which helped with recruitment and is not believed to have unduly biased their willingness to participate or their responses. Their profiles are described below.

Member A

Member A is a highly experienced team member and team leader and operates at board level as both an Executive Director (Global Chief Financial Officer) and Non-Executive Director (in both the higher education and private sectors). She is in her late forties, and has worked in teams of varying sizes across a range of large, 'blue chip' organizations and sectors, particularly professional services/accounting, media, scientific research and law.

Member A was interested in the topic and participated voluntarily, fully informed about the purpose of the research. She was selected because of her broad experience as a senior team leader and work across a range of team types. This included large, complex, globally dispersed teams and temporarily created, time-limited project teams. It was believed she would have a useful perspective on the topic of team anxiety to contribute to the study. The data was gathered from an in-person interview.

Member B

Member B is a leading team coaching practitioner and team coach supervisor, and a qualified and experienced Group Analyst where she has led therapeutic groups for nearly three decades. She is in her fifties, experienced in working as a team member, and has some experience as a Chief Executive Officer (CEO) of a small charity.

Member B is known to the author and was selected because of her in-depth subject knowledge of teams and her work supervising team coaches. As a team coach and Group Analyst, she was interested in the topic and participated voluntarily, understanding the purpose of the research. Given her technical expertise, it was believed she would have a useful perspective on team anxiety to contribute to the study. The data was gathered during a pre-arranged telephone interview. This was 10–15 minutes shorter than the other interviews due to how much time the member made available. Member B was not involved in Study 1.

Member C

Member C is female, in her mid-fifties and an experienced 1-to-1 executive coach. She has completed some basic team coach training and carried out some coaching of intact teams. Prior to coaching, she qualified and practised as a solicitor before becoming a law firm's Head of Learning and Development, where she was responsible for buying coaching services. She has less experience than other members of working in a team and so brings a different perspective. She agreed to be a member in the hope of broadening her knowledge of team coaching tools. The data was gathered from an in-person interview.

Member D

Member D is male, in his mid-forties and has a career spanning a number of large ‘blue chip’ corporate firms, including in management consulting where, as a Senior Manager, he led mid-sized project teams. He is the youngest member in the evaluation and has an internal, rather than external coach-consultant, perspective of teams and their challenges. An internally trained coach, he was head of coaching in his last company, a global technology provider. He has recently become an independent coaching practitioner and is developing a tool to use while coaching teams; therefore, like Member C, he is interested in widening his knowledge of team coaching. The data was gathered from an in-person interview.

With a small-scale evaluation study, there are several sectors unrepresented and under-represented by the evaluation members (e.g. financial services), and much younger (twenties to thirties) and older (fifties to seventies) workers are similarly not present. Nonetheless, they represent a reasonable coverage across a range of industries and core age groups (forties to fifties) when individual team members might become leaders of (much larger) teams.

3.2 Procedures

The procedure for this service evaluation was informed by the literature on conducting service evaluations (e.g. Patton, 1982; Clarke & Dawson, 1999), various National Health Service (NHS) ‘how-to’ guides (e.g. NHS, 2005; NHS Wirral, 2011; NIHR, 2013) and some worked examples (e.g. the leadership qualities framework 360 review, NHS 2010). Specifically, these works informed this service evaluation as follows:

- The NHS's Evaluation improvement guide (2005) proved particularly useful in defining the purpose of an evaluation (section 2.2 – to 'decide action', p. 7 – in this case whether team anxiety had any merit and, if so, how best to introduce it to teams); being clear on the purpose to ensure that the right improvements are being targeted; underlining the importance of planning an evaluation study to achieve the aim; and focusing on small, as well as large, improvements. This led to this evaluation focusing on the use of interviews to gather qualitative data to understand members' meanings associated with team anxiety, and creating a feedback loop from members' perspectives to inform the introduction of team anxiety;
- The NHS NIHR CLAHRC (2013) raised the question of whether a full evaluation was necessary and quicker ways of gathering data. It also contained a section on analysing stakeholders, which will prove useful when considering their needs and how best to introduce team anxiety to them;
- The NHS Leadership Qualities Framework 360 review (NHS III, 2010) covered the topic of evaluating the impact of a service. While premature for this study, it reinforced the value of a subsequent evaluation once team anxiety has been tested with intact teams. This has been discussed separately in the critique section (6) of this paper;
- The NHS Wirral paper (2011) pointed out the importance of disseminating the findings. How the findings of this study will be disseminated is covered at the end of the Discussion section (5).

3.2.1 Semi-structured interviews

This evaluation used a semi-structured interview to gather data from the members (3.1). The questions asked are included at Appendix A. The interviews took place over several weeks, scheduled when members were available in the order of member (B), (D), (C) and (A).

A semi-structured format was considered most useful to allow some flexibility to understand the meanings members attached to their answers across a range of team contexts. Given this flexibility, it was not believed necessary to pilot and validate the questions before using them with all four members. After being created by the researcher, the questions were, however, checked with the supervisor prior to being used, and the actual order of the questions asked were slightly changed for each member to allow the conversation to flow and richer sources of data to be obtained.

3.2.2. Ethical approval

The British Psychological Society's (BPS) Code of Human Research Ethics (2014) and the HCPC's Practitioner Standards (2015) were consulted for guidance to help inform the ethical considerations of this evaluation study. All members of the steering group were recruited with full disclosure of the aims of the research, and informed consent obtained prior to conducting the interviews, with the opportunity to withdraw at any time. The steering group understood the contribution they were being asked to make in the research, and how their responses to interview questions were to be stored, coded and used. As this was an evaluation exercise, steering group members were not being asked to disclose personal information and so it was not deemed necessary to obtain formal ethical consent from the University for this study.

4. Results

This section presents the key results of the evaluation using the questions posed as a structural aid to the findings. Letters in parentheses (e.g. (A)) identify the steering group member. Where no letter is indicated, there was agreement across the members to statements shown, unless otherwise stated.

4.1 What is your reaction to the findings?

Reactions to the findings varied across members. (B) saw all factors as linked whereas (A), initially, found the findings hard to comprehend as she considered anxiety as residing in individuals, not teams. Once (A) overcame this, she was able to relate the key findings to teams, describing them as ‘obvious’. (C) and (D) could both relate to it, with (D) saying it made ‘common sense’.

Member (C) commented upon the differences between inter-personal conflict (more generic) and hostility (more specific). She also asked about the role of the leader in team anxiety, stating that a leader can heighten or lessen it, depending upon their style.

4.2 What do you anticipate a team leader’s reactions would be to the findings?

Member (A) suggested that a team leader’s reaction would depend on whether they had witnessed team anxiety and were willing to acknowledge its presence in their team. They might deny team anxiety believing it may reflect on their ability as a leader. How to help a team leader acknowledge, or deal with, it becomes important, therefore. Member (C) believed inter-personal conflict would resonate with team leaders managing people, whereas a more dictatorial team leader may not recognize anxiety associated with decision-making in the belief that it is their role to make decisions for the team.

4.3 What do you anticipate a team's reactions to the findings would be?

Steering group members presented different possible reactions from teams although all believed teams would find the team anxiety concept useful. Member (A), for example, thought team members would recognize anxiety in teams but might find aspects of it difficult to broach, e.g. personally directed hostility, particularly if they have not experienced this before. She believed team members would see hostility as socially unacceptable at work, and therefore either avoid it, or that it would go 'underground'. In contrast, she believed teams would see polite conflict as acceptable.

Member (B) believed there might be a physiological reaction to anxiety ('as animals') and inferred this might be different from how they rationally consider anxiety. Member (C) referred to decision-making, saying that different decision values and styles could cause different degrees of anxiety and, more broadly, would see team anxiety as a means of allowing teams to talk about their dynamics rather than their tasks and work.

4.4 What do you like about the findings?

Respectively, members described the findings of the main study as 'honest', 'coherent', 'evocative and provocative', that they consider the team as a whole, and that team anxiety can hinder team performance. Expanding on this, Member (A) explained that the study does not gloss over team anxiety. It acknowledges that it exists. Conversely, she believed many people at work deny its presence, which perpetuates its acceptance. She believes this study validates its existence against teams' actual experience of anxiety.

4.5 What surprises you about the findings?

None of the members reported being surprised by the findings.

While acknowledging its existence, Member (D) said he had ‘rarely seen open hostility in 30 years’ [of working life] implying this might be reported less frequently.

4.6 What is missing (that you might have expected to see) from the findings?

One member (C) wondered whether anxiety could exist in only one individual team member, or in just one or two team members (i.e. not the whole team), because she had observed anxiety spreading across a team. She also commented about issues of trust and power. For example, does trust in a team decrease if a team leader withholds information to make them more powerful, or are members less trusting if there are cliques within a team with ‘in’ and ‘out’ groups? Member (D) also mentioned mistrust, briefly. These aside, steering group members could not identify any team anxiety components missing from the study.

4.7 What would improve the findings and work?

Steering group members identified several areas that could improve the work:

- Including the context in which the team operates (A). For example, a team in an organization undergoing business transformation is likely to be anxious so including the operating context was seen as an important component.
- Correlations between team leader style and the degree of team anxiety – does it create anxiety or ameliorate it? (A)
- Member (B) believes it is easier to see anxiety in others and implied assessing it this way maybe more beneficial.

- Understanding the impact of inter-personal conflict and hostility on anxious teams (C).
- Member (D) asked about the ‘big idea’, i.e. the ‘hook’ for organizations to consider team anxiety and why they should care about it.

4.8 What would be the next steps to introduce team anxiety in a work setting? How close to being ready (to be introduced) is it?

Member (A) advised that the next steps would depend on the type of team concerned, saying that team anxiety might be part of the governance or change management processes of a project team. A team leader might conduct an assessment of team anxiety, either as part of the team’s set up and project assurance, or during the evaluation stage at the end of a project. For permanent teams, team anxiety could form part of a leadership development programme for team leaders. This would include a discussion of team anxiety and the role of the team leader in relation to it. Member (A) believed this was important to include to educate team leaders about their role as the guardian of a team’s mental health. Both members shared the aim of making team anxiety explicit to the team so that it can be discussed.

Member (D) believed team anxiety could be used to help create teams.

Member (B) concurred believing that an assessment should start with a team rather than an individual. In introducing it to teams, Member (D) believed it would be useful to understand what organizational problems team anxiety solved for teams and the advantage they could gain from working with it.

4.9 How potentially useful is team anxiety for teams?

Steering group members described the utility of team anxiety as really or highly useful. Members (A) and (B) said that it highlights that team anxiety exists, which

allows teams to have a valid conversation about it – the construct gives a common language to enable a safe conversation about anxiety. Member (A) saw a conversation about team anxiety as more useful than a score showing the amount of it. Member (B) went further saying that we needed brief descriptors to what is a familiar experience [to team members]. Members (C) and (D) believed teams would want to know how to overcome their anxiety pragmatically, with Member (D) asking how they might do this themselves [implying without external intervention]. In contrast, Member (D) then focused on the team leader and how they might use team anxiety to create the conditions for team success. He was interested in being able to link team anxiety to team performance believing this was important both in itself and in encouraging organizations and teams to accept and use the concept.

Member (B) stressed that team anxiety should not be seen as dysfunction *per se*, but that it could lead to it. Member (D) underlined the importance of team anxiety saying that it could lead to stress and that this is a ticking time bomb for organizations.

5. Discussion

The aim of this evaluation is to understand how best to introduce the team anxiety construct to teams so that they can work with it in a useful way. To understand this from teams' perspectives, a series of semi-structured interviews was carried out with members of a steering group that included subject experts on teams (team coaches and organizational consultants), team leaders and members of teams. There was sufficient flexibility in the interview question format to ask more in-depth, probing questions to gain deeper insights on teams, while maintaining an overall coherent approach across the members.

Members' initial reactions to the construct and study findings were encouraging in that they all recognized anxiety in teams. This is reassuring in two respects: the literature showed anxiety to be an amorphous concept to define and understand in teams. It is possible that evaluation members recognized anxiety-related behaviours but attributed them to another cause. That they were able to relate them to anxiety reinforces our belief in the validity of the construct. Relatedly, as highlighted in the main research paper, there is always the risk with implicit theory approaches that ideas have been stimulated in members' minds that do not exist in reality (Sternberg, 2001), i.e. team anxiety is an artificially created concept that teams do not experience. Given evaluation members' acknowledgement of team anxiety, this appears not to be the case. Indeed, several members welcomed the idea of team anxiety as it accepts that it *does* exist. Members found this honest and refreshing. These reactions suggest the topic is almost discussable in today's organizations. Given anxiety's potential to impact performance positively on the one hand, and the financial costs if left unmanaged on the other (see HSE Labour Force Survey (LFS), 2014/15), that it appears to be difficult to discuss and address is worrying. Two contributions the study makes, therefore, are giving the concept some 'shape' and starting to legitimize discussion about it in the workplace. The aspiration is to go beyond this now and for team anxiety to be seen as an enabler of team, and organizational, performance.

Furthermore, members acknowledged that teams find anxiety a difficult subject to raise between members, let alone knowing how to respond to it. Hostility was seen as the most challenging area of the three main dimensions (factors) found in the study for teams to consider. Creating a label for something nebulous might

provide an easier way for teams to discuss team anxiety. One contribution team anxiety makes is that it is possible to separate elements into identifiable elements. The three dimensions (factors) – conflict, decision-making and hostility – use straightforward language and commonplace organizational terms, and give teams the words to describe their collective experience of anxiety. Members welcomed team anxiety being a whole team construct not least because it makes it possible to bring everyone into the discussion about anxiety and its effects on the team.

An important point raised by one steering group member is that, while anxiety is different from dysfunction it can, nonetheless, lead to it. Being able to identify specific team stressors that might contribute to the development of team anxiety, therefore, seems important. It is also significant because of the team-anxiety-performance links. While members emphasized the potential to discuss team anxiety as being useful, the possibility of being able to measure team anxiety against different factors allows teams to arrive at a more specific understanding of possible causes of anxiety if they are able to link these to particular anxiety-inciting incidents. Knowing this could help them decide how best to mitigate it once a team has become overly anxious. Equally, this insight could help a team be more proactive in future to take steps to avoid situations that are likely to escalate team anxiety levels or, conversely, to seek out or create situations to increase the degree of anxiety to stimulate optimal performance.

Encouragingly, members thought the measure of team anxiety to be relatively complete – nothing obvious was considered to be missing. This said, the importance of trying to show the context in which teams operate, and may find anxious, was

mentioned. This is a notable gap and concurs with the finding in the critique paper. Being able to show the impact of anxiety on a team (e.g. in contributing to, or detracting from, team performance) was highlighted as useful by one member and, again, corresponds with the researcher's view in the critique paper.

One new area emerged: the effect of the leader on team anxiety. Wheelan, Davidson and Tilin (2003) reported that teams develop over time and anxiety can change over a team's lifespan. In the start-up stage, teams can be especially anxious and rely heavily on the leader. Leader-team dependency is common during this time. If the leader is anxious, perhaps because they are new or inexperienced, this could affect the team and its anxiety levels. A leader therefore plays a key role in ameliorating or aggravating team anxiety and this could be an important area to address, perhaps as part of an organization's leadership development programme.

Alongside its many strengths, there are some limitations with this study, however. For example, the number of members in this evaluation was relatively small and did not represent all sectors and industry groups. Similarly, while they bring the advantage of many years' experience of working in teams, younger and older team members were not included in the member sample. We cannot say confidently that members' views represent those of all possible team members and teams.

A notable gap, as highlighted in the Critical Appraisal paper, is that individual members are not intact teams. As team anxiety is envisaged as a whole team construct, seeking views from complete teams would give us critical first hand observations of how teams actually experience anxiety and can best use the construct.

These issues have been discussed in more detail in the accompanying Critical Appraisal paper and will not be repeated here.

6. Critical Appraisal

This section critically appraises the evaluation study. Strengths and limitations are identified and actions specified to advance the work.

There were several useful findings arising out of the research. Members recognized team anxiety in real life with teams, agreed with the main elements of it, did not consider there were major gaps not included in the concept, and thought teams would value it. They further believed that it would legitimize the reality of anxiety for many teams and allow it to be discussed safely, particularly areas that teams find difficult to discuss such as hostility and conflict. It underlined our recognition of areas to extend the research further such as including the context in which teams operate and the effect of the leader on adding to, or detracting from, the amount and spread of anxiety. It provided new insights such as being able to show the impact (good and otherwise) of anxiety on teams to help introduce it to organizations' agendas. In turn, this will help organizations begin to include team anxiety in leadership development programmes to educate team leaders on its importance, measure it when setting up a new team, or assess it if the amount of anxiety has become excessive and a team becomes dysfunctional in order to pinpoint specific areas of difficulty so a team can overcome them.

The intention behind this evaluation was to elicit feedback that would help introduce team anxiety to teams at work. The feedback is notably oriented towards

teams, which is useful to gauge their likely reaction to it, although it is less balanced towards practitioners working with teams. In other words, the members responded with team views but far less so from a practitioner's perspective. This indirect relationship, through practitioners, is an important way of accessing teams and introducing team anxiety to them. On reflection, this weighting of feedback is not surprising: the questions asked members' views about teams. With some notable exceptions, we are left to infer members' views and what they would find useful to adopt team anxiety practically. To fill this gap, a further 1–2 members will be recruited and their opinions sought directly on the utility of team anxiety. The questions asked will also be modified to encourage this feedback.

Offerman and Spiros (2001) inform us that, of the team practitioners in their 176-person study who reported using some form of psychological tests and/or assessment methods as part of their team practices, 55% reported using the Myers–Briggs Type Inventory (MBTI). Bespoke surveys/instruments were used by 29% of practitioners, 17% used FIRO-B, 17% used 360-degree feedback instruments and 13% used the Thomas–Kilmann Conflict Mode Instrument. Interviews were used by 9%, and Learning Styles Inventory the least by only 7% of practitioners. From this sample, the MBTI is the most popular team tool used. Of note is that neither the MBTI nor the other instruments are designed to measure intact teams. The MBTI, although used with teams, is predominantly an individual personality measure. Also noteworthy is that although the Kilmann tools measure conflict, none of these popular tools measure anxiety. This leaves a clear void for team anxiety to fill.

All of the evaluation members saw team anxiety as a useful concept but half of them ((D) and (C)) were looking for an easy way of introducing it to teams.

Suggestions were either to show the (negative) impact of excessive team anxiety and use this to stimulate a conversation about it, or to develop a way of measuring team anxiety to increase it to inspire better performance or moderate it when there is too much. An important gap in our understanding remains the optimal amount of anxiety needed for a team operating in a particular setting to perform to its best. Members responded to the questions about teams' *likely* reactions to the team anxiety concept rather than responding based on a team's *actual* experience using it. There is scope to repeat the evaluation exercise in future after such a measure has been used in practice with whole teams.

The team anxiety construct provides insights to teams about areas they find difficult to discuss, such as hostility. It is likely they would find the same areas equally difficult to tackle. None of the members raised this. A tool to measure team anxiety has the potential to introduce a topic without a means of helping a team respond to it. We need to be mindful of this and offer practical means of helping teams with the issues it provokes.

In light of the ascendancy of teams at work and this continued trajectory, it is believed there should be strong interest in the findings of this study. It is intended to write a series of articles based on the research including:

- an article in the practitioner press, e.g. in Coaching Perspectives, the Association for Coaching's global coaching magazine and/or the British Psychological Society's The Psychologist, and
- An academic journal article, e.g. the British Journal of Psychology and/or Harvard Business Review.

As the intention behind the study is to inform, extend and promote good practice, the initial emphasis will be disseminating knowledge about team anxiety to teams, and practitioners working with them. Through this, it is hoped to promote a better understanding of team anxiety in organizations and the benefits to be gained in terms of greater team and organizational performance.

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Steering group member evaluation questions

- Researcher explain the output of the factor analysis (3 factors identified)
- Researcher explain the strongest correlations (Pearson Correlation Coefficient)

Question 1: What is your reaction to the findings?

Question 2: What do you anticipate a team leader's reactions would be to the findings?

Question 3: What do you anticipate a team's reactions to the findings would be?

Question 4: What do you like about the findings?

Question 5: What surprises you about the findings?

Question 6: What is missing (that you might have expected to see) from the findings?

Question 7: What would improve the findings and work?

Question 8: What would be the next steps to introduce team anxiety in a work setting?

How close to being ready (to be introduced) is it?

Question 9: How potentially useful is team anxiety for teams?

Question 10: Anything else to add?