Portfolio Volume 1

- Major Research Project -

The Impact of Virtual Working on Perceived Team Effectiveness in Secondary Mental Health Services During the COVID-19 Pandemic

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June 2022

Word count: 30,875

(Excluding: Contents Lists, Appendices, Tables, Figures and References)

Submitted to the University of Hertfordshire in partial fulfilment of the requirements of the Doctorate in Clinical Psychology

Acknowledgements

To my friends and family, despite facing your own challenges during this pandemic, you have all been there to support me. For this I am forever grateful especially to Kirsty, I cannot imagine where I would be without you by my side the last few years! Stef, thank you for your honesty and compassion. Jazz, thank you for pushing me to keep going when all I wanted to do was stop. And Tom, thank you, thank you and thank you for all the encouragement, time, and positivity you bring to any space.

I would also like to thank everyone who gave their time in completing and sharing this study. And to my research team, Barbara, your expertise, and enthusiasm for understanding and supporting teams was always the driving force. This project would not have started or ended without you. Lizette, I will forever be grateful for your grounding presence that has helped me learn to sit with my stories. Finally, Keith, thank you for all the jokes when laughter felt so far away specially when staring at SPSS!

To my strongest team, my family, thank you for EVERYTHING. Dad, for the things you gave up for us and all the hard work you do - thank you. Mum, for all the sacrifices you make for us and your beautiful heart that gives us a sanctuary to continue growing in - thank you. And my (forever) little brother, “there are two types of beings in the universe - those who dance and those who do not” (Drax the Destroyer) thank you for being the type who always dances even when the music is eerie!

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Abstract

Introduction: Working as a team is the desired approach by many industries because of the benefits it provides for service users, team members, and services. However, to make a team work, many factors must be considered. One framework that can support this process is the Input-Process-Output framework which represents the various, non-linear factors that can contribute to a team's outcomes. For example, virtual working (VW) has been found to be a factor that can negatively impact team processes (e.g., trust, cohesion, communication) and team outputs (e.g., team effectiveness and satisfaction). With the pandemic enforcing VW, many spoke about its impact for clients using mental health services. However, little is known about the impact of VW during the pandemic on the teams providing the service. ***Aims:*** Therefore, this study aimed to explore the impact of VW during the pandemic on perceived team cohesion, trust, communication, perceived team effectiveness and job satisfaction. It also aimed to examine whether previously found correlations between these team processes and outputs could be generalised to teams who became virtual during the pandemic. ***Methodology:*** A quantitative online survey was completed by 57 NHS secondary community mental health workers. This survey consisting of six sections included variety of measures, testing team processes and outcomes. ***Results:*** There was a significant decline on perceived team cohesion, trust, and satisfaction. However, there was no statistically significant decline on team effectiveness during the pandemic. Results also confirmed previous findings regarding correlations between team processes and outcomes. ***Conclusion:*** Virtual working may have had a negative impact on secondary mental health teams during the pandemic. However, despite this, team members have expressed wishes to maintain some aspects of VW. This study adds to our growing examination of the true impact of the pandemic and provides clinical and research recommendations that could support team effectiveness, especially as hybrid ways of working are becoming the norm for many.

Chapter 1. Introduction

1.1. Chapter Overview

This chapter begins by highlighting some of my interests in the research area of multidisciplinary teams (MDTs), how they work and how we could help them be more effective. The chapter will then present definitions of key concepts and an overview of factors that may impact virtual team (VT) effectiveness. This will be followed by presenting the rational and aims of the study as well as reflections on my epistemological standpoint on the topic of teams.

1.2. Personal Interests in Multi-disciplinary Team Working

Having worked within the National Health Service (NHS) mental health services for over 12 years, I have witnessed colleagues face challenges in both their personal and professional lives due to team dynamics leading to burnout, reduced team effectiveness and poor job satisfaction. I have also witnessed the consequences of this for clients such as, longer waiting lists as a result of increased staff sick leave due to burnout or not utalising the best out of an MDT. Therefore, I am keen to understand how teams could be more effective.

Initially, following on from a small-scale research project, I had hoped to continue exploring staff perceptions of different disciplines and the role that role clarity serves in strengthening MDTs. However, due to the pandemic resulting in changes in how teams worked, an alternative project was required. Around the same time, starting virtual working (VW) for me and many colleagues presented challenges with connecting, building bonds, team effectiveness and communicating with our MDTs. As a result, I was curious to explore how VW impacted teams and their effectiveness during the pandemic. Although during the pandemic, blogs and recommendations were disseminated, many focused-on recommendations for VW with clients or personal wellbeing of employees. From our experience, little was done or said to explore the impact of VW on mental health teams.

1.3. Key Concepts

There is no single definition for any of our key concepts. Therefore, the presented definitions are influenced and limited by the researchers understanding and views of the literature they have read, personal experiences and aims of this research.

- **Team:** A group of people working together on common goals.
- **Multi-disciplinary team:** A team consisting of two or more disciplines.
- **Virtual teams/ working:** Teams who mainly work from different geographical locations, predominantly using technology. This way of working is also known as remote/ online working and telemedicine.
- **Hybrid working:** Working using two methods such as virtual and face-to-face.
- **Team effectiveness:** How successful a team is in their performance and outcomes for clients and/or team members.
- **Team Cohesion:** How team members get along, connect, and create bonds, as well as the closeness members feel towards each other.
- **Team Trust:** A multi-layered concept that represents a team members willingness to be vulnerable amongst other team members.

1.4. Setting the Scene - Working During the Pandemic

The Corona Virus outbreak, also known as COVID-19 began spreading across the world in December 2019. The UK began to take measures to protect the public from the virus in January 2020 and by that March, the government ordered a nationwide lockdown which slowly eased by August. In December 2020, the country went back to another lockdown which slowly lifted from March 2021. Nonetheless, discussions continue about possible future waves and restrictions continue for many.

Lockdown measures have included (and still do for some, in particular the NHS) working from home. Even prior to the official lockdown, the NHS began to act on protecting

themselves and others. One way of doing this has been the introduction (or for some, increase) of VW which includes the use of technology for activities such as meetings through video conferencing. For safety purposes, VW continues to be the new norm and many services including community mental health services are discussing maintenance of some aspects of VW post-pandemic. Therefore, it is important for us to explore the potential impacts of VW on teams to help teams be effective for their members and service users.

1.5. Multi-disciplinary Mental Health Services

Community Mental Health Services across the four nations, funded by the UK's NHS provide mental health care for the nation. Secondary Community Mental Health Services are provided for children, adolescents, adults, and older adults experiencing moderate to severe mental health difficulties. Examples of these secondary teams include psychological wellbeing services, community mental health teams (CMHTs) and Early Intervention treatment teams.

Community mental health teams have been evolving since the 1970s and now include a variety of disciplines such as Community Psychiatric Nursing, Occupational Therapy, Social Work, Psychiatry and Psychology. This MDT approach utilises knowledge and skills from different disciplines to provide the best care for service users. As we will see, teams, in particular MDTs are considered essential in many industries (e.g., finance and health care). They allow for the integration of knowledge, experience and expertise from different disciplines therefore supporting better outcomes (Salas, Cooke, and Rosen, 2008; Borrill, West, Shapiro and Reess 2000). This is also the recommended approach by the National Institute of Health and Care Excellence (NICE) for supporting individuals experiencing a variety of mental health difficulties (e.g., depression; NICE, 2019).

Whilst early pandemic research focused on the impact of VW in community teams for clients, (e.g., Sheridan Rains et al., 2021; Bhome et al., 2021) or the mental wellbeing of individua clinicians (Foye et al., 2021) little is yet known about the impact on teams.

1.6. Teamwork

Before looking at what makes a team and why its effectiveness is important, it must be noted that researchers have also used the term "group" when exploring how a number or "group" of people work together. Both terms ("group" and "team") are used interchangeably at work and in research. Within the NHS, the term "team" is used frequently such as "drug and alcohol team" or MDT. Therefore, this study will use the term "team".

Traditionally, a team refers to a group of individuals working collectively to achieve common goals. Teams are known to produce better desired outcomes for services and their clients, and it is these outcomes that can indicate whether a team is effective or not. For example, effective team working in health care services has been associated with higher quality patient care, improved patient safety, lower hospitalisation rates and reduced errors (West and Lyubocnikova, 2013; Manser, 2009; Kavadias and Sommer, 2009). Therefore, services and policymakers often prioritise the monitoring and improvement of team effectiveness (NHS England, 2015; West and Lyubovnikova 2013).

1.7. Team Effectiveness

In team working, effectiveness is a multi-dimensional concept, which often relates to the outcomes and consequences a group has on its members (Singh and Muncherji, 2007; Cohen and Bailey, 1997). This is also sometimes referred to as "a team's capacity to achieve its goals and objectives. This capacity leads to improved outcomes for team members (e.g., team member satisfaction and willingness to remain together)", (Cooke and Hilton, 2015, p.2). According to Jarvenpaa and Ives (1994), an effective team is one that produces high quality services and rewards its members with satisfaction. Therefore, in secondary mental

health services, an effective team could be seen as a team which provides high quality of service for its service users whilst meeting organisational goals and rewarding MDT members (e.g., with satisfaction).

One of the many theoretical frameworks focusing on team functioning and effectiveness is the Input-Process-Output (I-P-O) model of team effectiveness (Hackman & Morris, 1975; McGrath, 1964; Dulebohn and Hoch, 2017). This model, which has been the focus of many researchers exploring teams provides a framework for understanding teams. It suggests that there are many factors that impact a team's performance. In this framework, input factors can include individual-level factors (e.g., individual personalities, skills, and abilities), team-level factors (e.g., group size) and environment-level factors (e.g., things happening outside of the team such as a pandemic, and finances). Process factors are linked to interactions between members (e.g., developing norms and rules, communication methods, trust, cohesion). Finally, output factors (also referred to as outcomes, and performances) refer to whether a team is functioning and meeting goals and this can be measured through looking at factors such as member satisfaction and outcome rates (Hackman, 1987). An example of some of the factors identified and added to the framework over time have been compiled and presented in Figure 1.

Traditionally, the model was seen as a linear model but over time it has been developed further to represent a non-linear picture of team functioning as shown in Figure 2. For example, Hackman (1987) introduced the idea that first, team processes are not always mediators of input variables. Furthermore, he identified that in some circumstances, inputs can directly influence both processes and outputs rather than only influencing processes.

Figure 1

Example of an I-P-O Framework

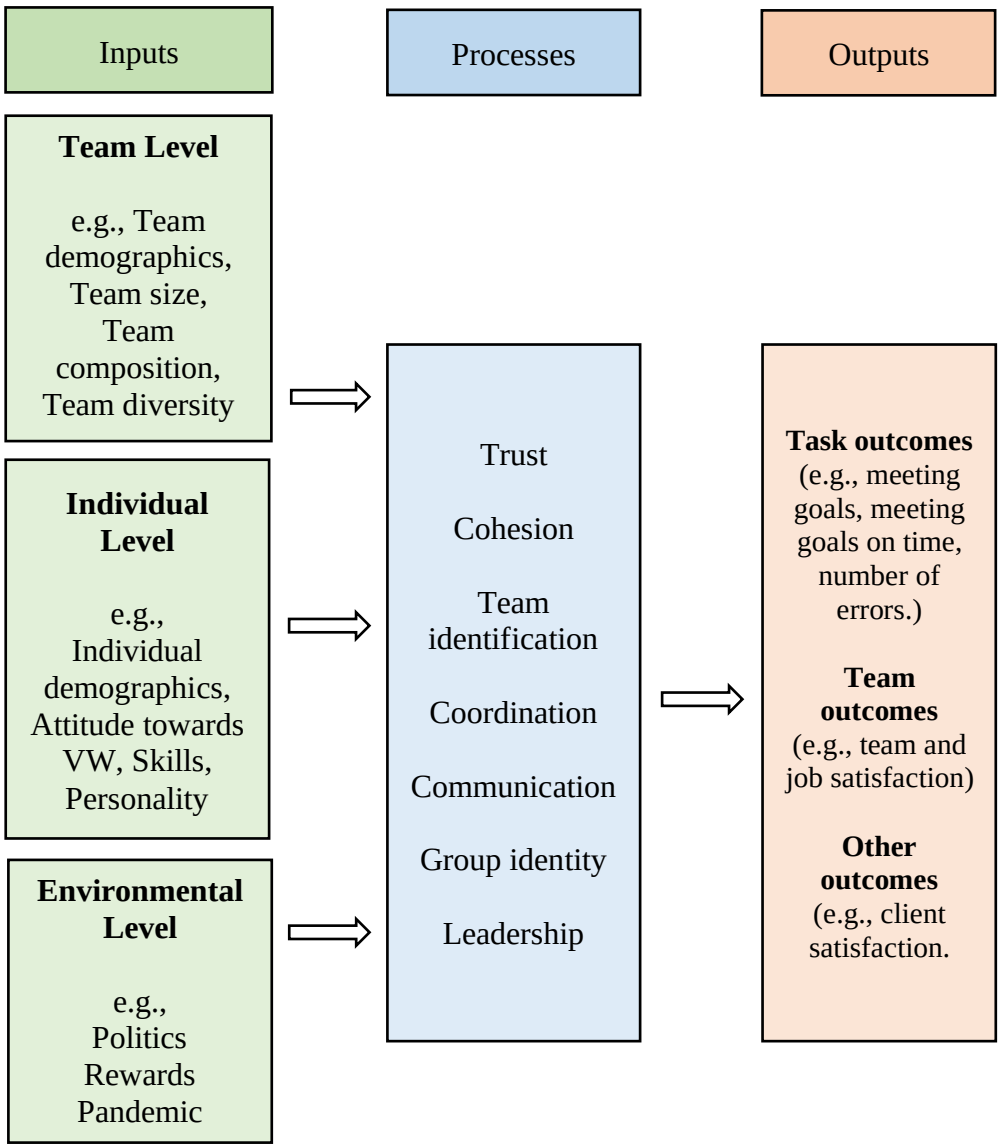
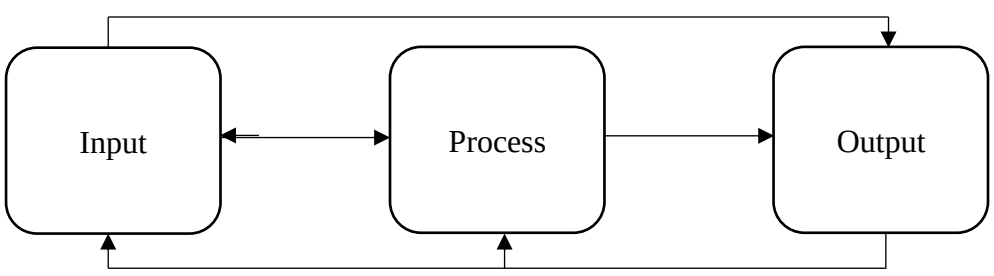


Figure 2

Non-linear Representation of the I-P-O Model



Ilgen, Hollenbeck, Johnson, and Jundt., (2005) examined some of the criticisms of the I-P-O model and added further suggestions to how team factors may function and correlate. For example, they introduced the idea that instead of seeing team functions as going in a loop, the framework should be seen as a multi-cycle model. Here, outputs (e.g., team effectiveness) can also be treated as inputs. They represented their findings in an Input Mediator Output Input (IMOI) framework. Within the IMOI, Ilgen and colleagues replaced the original processes factors with mediators. This was to represent the idea that many variables are mediators for both inputs and outputs. Furthermore, the additional input at the end of the model was introduced to represent the idea that outputs can also serve as inputs. Finally, their removal of hyphens emphasised the non-linear picture. As a result, when discussing the I-P-O framework of teams, related to this study, the hyphens will not be included to emphasise a non-linear picture.

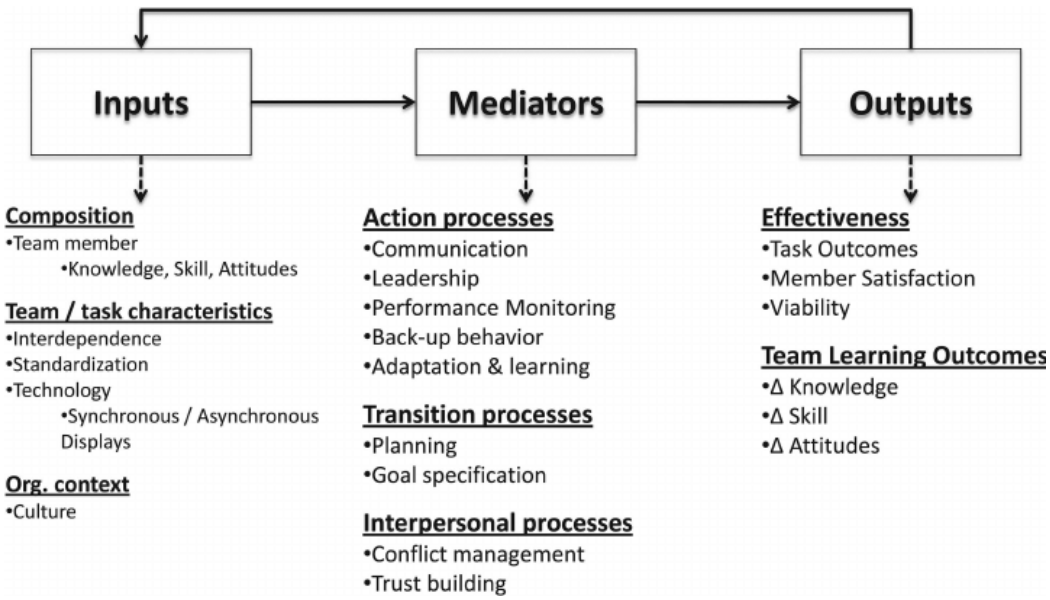
Similar to the I-P-O model, the IMOI has also been expanded on or adapted by other researchers, some of whom use the term IMO model. Figure 3 is one example of an IMO model and the possible dimensions. As we can see, there are many inputs and processes that can help or hinder a team's outcomes. As a result, there are many ways a team's effectiveness can be studied and measured. For example, stakeholders may measure their team's effectiveness by comparing their outcomes with other similar teams. Another service may measure outcomes through client feedback or staff feedback where better feedback represents a more effective team.

Looking at team effectiveness and its measurements, Singh and Muncherji (2007) emphasised that there are both objective (e.g., cost savings) and subjective perceived measurements (e.g., trust and cohesion) for team effectiveness. They suggested that perceived measures can be structured questionnaires or a collection of reflections from team members on how the team is functioning or the achievements they have gained. In NHS mental health

services, one example of such assessment is completed by the Care Quality Commission (CQC) who assess and rate services and teams. The yearly NHS staff survey is another example of assessing member experiences and satisfaction (NHS Staff Survey, 2021).

Figure 3

Example of an IMO Framework and Dimensions Influencing Team Effectiveness by Rosen, Dietz, Yang, Priebe, and Pronovost, 2015.



According to Kash, Cheon, Halzack and Miller, (2018), what we must remember when looking for measurements to assess a team's effectiveness is that different measures have been used for different settings. For example, their systematic review of surveys measuring team effectiveness found that surveys used in primary care settings often focused on team performance whereas surveys for effectiveness of surgical teams focused more on task-specific factors. Similarly, Brennan, Bosch, Buchan and Green (2013) emphasised that many measures of perceived team effectiveness have been created for a specific study. As a result, many researchers and services have focused on dimensions of effectiveness based on their aim of data gathering (e.g., user satisfaction; Lemieux-Charles et al., 2002).

Despite inconsistencies in defining and measuring team effectiveness, it remains the most important, sought-after aspect for teams including VTs. Examining and understanding team effectiveness in VTs has been highlighted as essential because mediators which impact team effectiveness (e.g., trust, satisfaction, cohesion, and communication) have all been found to be negatively affected by VW.

1.8. Virtual Teams

The ever-evolving information technology gives us more ways of connecting team members who are geographically dispersed via use of a variety of IT platforms (e.g., videoconferencing, e-mails, instant messaging) to communicate and achieve outcomes (Gibson and Cohen, 2003; De Guinea, Webster and Staples, 2012; Lurey & Raisinghani, 2001).

There are different types of VTs for example, some are put together only for a duration of a project whilst others are long term. Some VTs are also known as global VTs referring to teams that work across time and different geographical locations which brings with it additional challenges such as language barriers, and time differences. Teams can also be Virtually Partially Distributed Teams (vPDT; Eubanks et al., 2016) and their way of working is more recently referred to as hybrid working. This refers to teams that use a combination of virtual and face-to-face ways of working. Virtual teams vary in terms of their virtuality or virtualness (amount of time spent working virtually) and there is no specific rule that specifies what level of VW classifies a team as being a VT (Martins, Gilson, and Maynard, 2004; De Guinea, Webster and Staples, 2012).

1.8.1. Benefits and Challenges of Virtual Teams

Virtual teams and VW bring many benefits to services, team members and clients. For example, VW allows organizations to collaborate with different experts regardless of their location (Gibson & Cohen, 2003). They can also provide more flexibility for team memebers,

reduce travel times, and reduce costs of bringing people together (Martins, Gilson, and Maynard, 2004).

Nonetheless, VW comes with its challenges. For example, Kirkman et al., (2002) found that building trust, cohesion, team identity and overcoming isolation were some of the challenges VTs may face. Team size and amount of effort members put in for the team can also contribute to some challenges for VTs. For example, VTs consisting of 13 or more members exhibited poorer outcomes (Acai, Sonnadara and O'Neill, 2018). However, this challenge is not unique to VTs and could be explained by the Social Loafing Theory (Ingham, Levinger ,Graves and Peckham., 1974) which suggests people may use less effort at work when within a team because they may feel less responsible for team outcomes (Penarroja, Orengo and Zornoza, 2017; Robert, 2020).

1.9. Virtual Team Effectiveness

Unfortunately, much of the previous research on team effectiveness has not been on VTs. Therefore, generalisations of findings can be problematic. Although few researchers have attempted to explore this and used the I-P-O model (or adaptions thereof), our understanding of how VTs work and what could support them to be more effective remains limited. Researchers who have adapted, expanded, and used the model to explore VTs include Dulebohn and Hoch, (2017) and Bartsch, Weber, Buttgen and Huber., (2020) and their discussions are supported by the literature in the field of VT research.

Some suggest that inputs explored and identified by previous research in the field of teams are more important in VTs include leadership behaviours, team building and interactions between team members (Liao, 2017). In relation to processes specific to VTs, cohesion and trust have been a focus for researchers because previous findings have suggested that these process factors are more likely to be negatively impacted by VW. Finally, in relation to outputs, Bartsch, Weber, Buttgen and Huber., (2020) highlighted that

whilst outputs have and can be measured in VTs like traditional teams, (e.g., measure of team satisfaction), when in crisis (e.g., COVID), little is known about impacts on VT outputs.

These findings are also supported by Lurey and Raisinghani (2001) who used a survey to explore factors that contribute to or inhibit the effectiveness of VTs within professional services, agriculture, and high technology industries. They found that several factors positively correlated to the effectiveness of the teams, including team member relations correlating positively with team performance and team member satisfaction.

Despite inconsistencies in defining and measuring, team effectiveness (virtual or face-to-face) remains very important for services. Frameworks such as the I-P-O or IMPO (and other expanded and adapted versions) continue to help draw the links between VT inputs, processes or mediators and outputs. Therefore, to further understand VTs and how to help them be more effective, we will look closer at some of the processes or mediators in the VT literature such as trust, cohesion, and communication. For each factor, we will briefly examine definitions, previous findings, and possible measures.

1.10. Virtual Teams and Trust

Trust within a team has been found to help with knowledge sharing, satisfaction levels and cohesion (Edwards and Sridhar, 2003). Although there is no single definition of trust amongst previous researchers, there are some common patterns in terms of defining and exploring components and conditions of trust in teams. For many researchers, trust is a multi-layered concept that represents a team members willingness to be vulnerable amongst colleagues. Tzafrir and Dolan (2004) identified three concepts of trust. These included vulnerability (willingness to take a risk in relationships), previous interactions or reciprocity (whether this was perceived as positive or not) and expectations (for behaviours). From these concepts, they defined trust as “a willingness to increase one’s resource investment in another

party, based on positive expectation, resulting from past positive mutual interactions." (Tzafrir and Dolan, 2004; p116).

Regardless of the definition, trust has been found to be essential within any relationship including team relations. Trust early on in a team's collaboration has been found to predict better outcomes such as team performance (Crisp and Jarvenpaa, 2013). Trust has also been found to support processes or mediators such as knowledge sharing which have also been linked to better team outcomes. For example, Gibson and Gibbs (2006) found that trust supported individuals to share ideas and take risks leading to better knowledge creation. This would be important in secondary mental health where MDT or multi-agency working is recommended by NICE for many difficulties and conditions, (e.g., Autism, NICE, 2012).

In relation to VTs, it has been reported that team members may find it takes longer to form trust and overall, it may be more difficult to establish trust with their team members (Pinjani and Palvia; 2013). Pinjani and Palvia's (2013) suggested that one way of supporting the establishment of trust in VTs could be focus on social communication. Similarly, Gibson and Manuel (2003) proposed that when VT members depend on others (e.g., for tasks) this creates opportunities to interact with each other leading to familiarity and openings to assess whether someone is trustworthy.

Although difficult, Kirkman et al., (2002) argued that building trust within VTs was not impossible, just different. For example, they reported that previous findings suggested that trust in teams is built through face-to-face interactions (e.g., sharing personal information over the kettle and socialising outside of work) which are kept confidential. This type of trust is referred to as benevolent or interpersonal trust (Mayer, Davis, and Schoorman, 1995). However, they found that in VTs, despite the absence of face-to-face interactions, trust was still built, although differently through member reliability, consistency, and openness.

In terms of measures, there have been different measures used to explore team trust. However, they have often composed of a variety of factors relating to trust. One example is an 11-item measure created by McAllister, (1995) which consists of statements that participants rate, allowing examination of both cognition-based trust and affect-based trust. This has also been used by researchers exploring VTs (Coovert, Miller and Bennett (2017).

1.11. Virtual Teams and Cohesion

Like trust, team cohesion or cohesiveness has been a common reoccurring theme in VTs and non-VT research and is often considered another important process factor or mediator linked to outcomes of a team (Salisbury, Carte and Chidambaram., 2006; Mathieu, Maynard, Rapp and Gilson., 2008; McLeod and Treuer, 2013; Carless and De Paola, 2000). Unfortunately, like other factors impacting team effectiveness, team cohesion does not have a single definition although, in general it tends to refer to how team members get along and the closeness team members feel towards each other (Jarvenpaa, Shaw and Staples, 2004).

Studies of cohesion within teams are very important as they contribute to our understanding of how team members get along and their desires to stay as a team (Garrison, Wakefield, Xu, and Kim., 2010). This has been linked to better group wellbeing, task performance, better perceived team effectiveness, reduced absence, better staff retention and better decision making in teams, including mental health teams (Lemieux-Charles and McGuire, 2006).

Symbolic Convergence Theory (SCT; Bormann, 1983; Broman, Cragan and Shields, 1994) is one framework for understanding cohesion in both virtual and non-virtual groups. The SCT identifies that developing cohesion in teams is through social interactions that allow members to share information (e.g., non-work-related discussions such as jokes, likes and dislikes) about themselves, providing a shared context for the group, strengthening bonds and cohesion.

Previous research has also found, and we have begun to see over the pandemic that, communicating virtually with our colleagues is different as it provides us with less opportunities and ways to communicate (especially socially) with one another. Therefore, it is likely that based on the SCT, developing, and strengthening of cohesion will also differ and provide challenges in VTs. Consequently, focusing on communication in VTs is important and this will be discussed further in section 1.12. For example, Hambley, O'Neill and Kline (2007) and Hollingshead and McGrath (1995) noted that lack of communication in VTs as well as lack of non-verbal social cues impacted negatively on team cohesion which in turn could impact team effectiveness.

Just as there are many ways cohesion can emerge and develop within a team, there are many ways it has been measured. Kash, Cheon, Halzack and Miller., (2018) found that team cohesion and perceived team effectiveness were in many measurement tools used by health services looking at team effectiveness. As a result, there are many inconsistencies in the literature (Salas, Grossman, Hughes and Coultas., 2015), making it difficult to compare and use a single valid and reliable measure.

One way to measure and evaluate cohesion within teams is through using the Perceived Cohesion Scale (PCS). Created by Bollen and Hoyle (1990), who defined perceived cohesion as "an individual's sense of belonging to a particular group and his or her feelings of morale associated with membership in the group" (p.482)". They hypothesised that the perceptions of group members on cohesion within their groups significantly affected their own and their groups behaviours. From their factor analysis, they introduced a two-factor model - sense of belonging and feelings of morale. They argued that without both dimensions' groups would face challenges. For example, without a sense of belonging, members may not want to associate with other group members and without feelings of

morale, members may not be motivated to achieve team goals which could result in poor outcomes.

Chin, Salisbury, Pearson and Stollak., (1999) used an adapted version of the PCS to explore its use for small groups. They also found PCS to be reliable and valid and confirmed the two-dimensional features of the scale. Although, it must be noted that their sample was of an artificial nature therefore may not be generalisable to a field setting such as an organizational team. The scale was also tested by Salisbury, Carte & Chidambaram (2006) with a sample of VT members and they also found a good validity and reliability to the scale, suggesting that the PCS can be used as a good indicator of perceived cohesion within VTs. In their conclusion they highlighted that with VW, resulting in reduced face-to-face communication, it is critical to examine cohesion in teams and the PCS can be used for this purpose.

1.12. Virtual Teams and Communication

As we have seen, communication (exchange of information) amongst team members plays a big role in VTs. Virtual communication can have many benefits such as instant messaging. However, communication in VTs has also been linked to more miscommunication and misunderstandings which can have a negative impact on knowledge sharing, trust, and cohesion, and so, team effectiveness (Piccoli, Powell and Ives, 2004; Jarvenpaa and Leidner, 1998; Robey, Khoo and Powers, 2000).

Team communication research has also faced challenges due to ambiguities and lack of consistency in what factors to examine when looking at effects of communication on VT effectiveness (Marlow, Lacerenza and Salas, 2017). Nonetheless, we identified three common areas that were frequently discussed. These included frequency, method, and purpose of communication.

1.12.1 Communication Frequency

Research has found that the frequency of communication amongst team members in VTs can be lower than traditional teams which is concerning as De Guinea, Webster and Staples (2012) found that frequency of communication impacted team functioning. Maznevski and Chudoba (2000) also found that more successful global VTs reported frequent communication similar to non-virtual teams.

Although, it must be noted that some researchers have found that when VTs communicate more than none-VTs, their communication effectiveness or performance can decrease (Desanctis and Monge, 1988). In some teams this may be due to cognitive overload (Marlow, Lacerenza and Salas, 2017). According to Sweller, Merrienboer and Passs's (1998) Cognitive Load Theory (CLT), when our working memory capacity is full, our learning and processing can decrease. This is important to consider as cognitive overload has been linked to higher levels of stress, anxiety, and tiredness (Bawden and Robinson, 2009). Unfortunately, some previous findings suggest VTs may receive too much information (cognitive overload) in particular, in the UK (Klausegger and Sinkovics, 2007).

1.12.2. Purpose of meetings (e.g., formal, or informal).

Opportunities for informal interactions and socialising can be difficult to achieve in VTs who tend to only come together virtually, for meetings (Sarbaugh-Thompson and Feldman, 1998; Blanke, 2013). Unfortunately, this can be a barrier for building trust, cohesion, and satisfaction. Therefore, it is important to know how opportunities could be created for "campfire chats" in VTs.

1.12.3. Method of communication (e.g., Face-to-face, or virtual)

Blenke (2013), argued that face-to-face communication, compared to virtual communication allows for more and better opportunities to have informal "campfire chats". Therefore, it could be argued that hybrid ways of working could be the answer to this barrier.

Another communication difficulty identified in VTs is the reduction of social cues such as non-verbal cues (e.g., facial expressions; Hollingshed & McGrath, 1995; Robey, Khoo and Powers, 2000) which can result in more misunderstandings as well as impacting the building of trust. This could be because, non-verbal expressions could help with identifying how trustworthy someone may be (Bos, Olson, Gergle, Olson and Wright., 2002). Additionally, limited presence amongst VT members has been found to reduce social and psychological connections (Biocca, Harms, and Burgoon, 2003) which can result in challenges in forming interpersonal relations, trust, cohesion and so team effectiveness and satisfaction (Jarvenpaa & Leidner, 1998).

Poor IT systems (e.g., IT tools not working, internet issues, less user-friendly softwares) have also been found to impact quality and quantity of communication in VTs. For example, IT related issues can have an impact on the richness and timeliness (less immediate feedback) of the communication. According to DeSanctis and Monge (1999), delayed or absent feedback can result in the receiver needing to interpret messages to identify the intended meaning which can lead to misunderstandings.

In terms of measuring the impact of communication in VTs, again, to our knowledge, there is no single measure. Some ways of exploring the impact of virtual communication can be through team member feedback (verbal or written), video or audio recordings, and observations that identify and report on the three key components discussed.

1.13. Virtual Teams and Satisfaction

In general, being satisfied refers to a state of being pleased or happy with something. In relation to work, satisfaction has been identified as a mediator and moderator in relation to team outcomes. Satisfaction can be explored in relation to job satisfaction or team satisfaction. Examples of job satisfaction can be whether someone is happy with their job-related criteria', job resources or with their organisation's behaviours. Examples of team

satisfaction include relationships with colleagues such as feelings of cohesion and trust (Gurtner, Kolbe and Boos, 2007).

Both types of work-related satisfaction have been linked with team effectiveness or performance. For example, satisfaction with one's VT has been found to support stronger team identity, more frequent communication, and better conflict management all of which, can support team effectiveness (Zimmermann, 2011). However, some researchers suggest that in VTs, compared to face-to-face teams, satisfaction can be lower (Martins, Gilson and Maynard., 2004).

One explanation for lower satisfaction in VTs might be the reduced interactions between colleagues. As a result of some of the lost opportunities to build connections (e.g., chats over the kettle), some researchers suggest that VT members can feel isolated and less satisfied (Kirkman et al., 2002). Robin Dunbar also recently expressed his concerns for the impact of VW on communication with those we form relations with. Dunbar, famous for his theory about the number of people we can maintain stable social relationships with (Dunbar, 1993), has always advocated for the importance of social interactions in for relations (including work relations). In 2016, Dunbar conducted a study regarding online relationships and concluded that online contacts could not substitute for face-to-face contact specially when it comes to maintain relations. When thinking about VW during the pandemic, Dunbar argued that social interactions will be lost. In particular, Dunbar expressed that VW would take away serendipitous meetings and "meetings at the water fountain" which virtual platforms could not replace.

Another factor that has been found to impact VT job satisfaction has been members knowledge and confidence in using IT tools and technologies. Those with less knowledge and confidence report less satisfaction (Fuller, Vician and Brown, 2016; Hollingshead and McGrath, 1995). However, for some team members, VW can bring more satisfaction because

of reduced interactions that may have previously involved gossip and interruptions (Kirkman et al., 2002).

There is no single measure for job or team satisfaction. In the NHS one source of measuring satisfaction within a service, team, job, or organisation is the yearly NHS staff survey which asks participants to rate how satisfied they are with different factors such as the extent to which their organisation values their work (NHS Staff Survey, 2021).

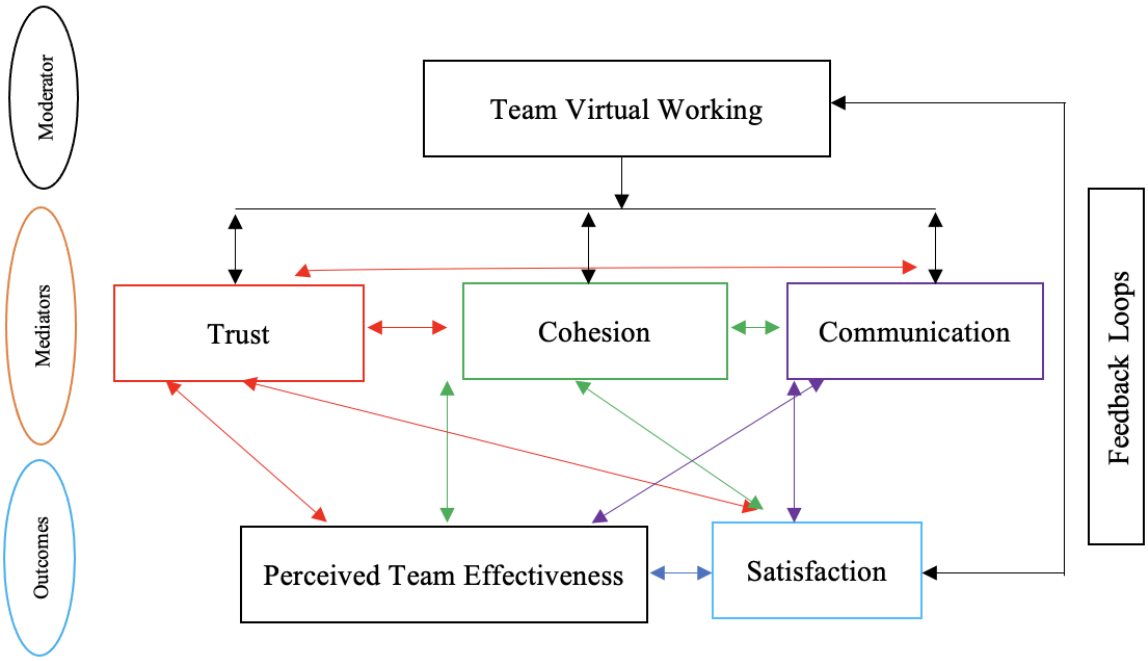
1.14. Summary of the literature discussed

Within VTs, like face-to-face teams, there are many inputs, processes, and outputs, which connect with each other in a non-linear fashion. Figure 4 represents some of these factors discussed in this chapter. Thus far, we have learnt that like other teams', VT processes (e.g., cohesion, trust, communication) impact each other as well as VT outputs (e.g., effectiveness and satisfaction). We have also seen that these outputs can impact processes.

So far, the literature has identified that VTs are likely to face more challenges compared to face-to-face teams. Additionally, they have identified challenges for researchers such as inconsistencies in defining key terms, sampling methods, research designs, measures, and overall lack of research within the field. However, the literature also identified some benefits of VW such as reduced costs, time and space savings and an alternative way of communication preferred by some.

Figure 4

Summary of Non-linier Connections in Teams Discussed in Chapter 1



1.15. Rationale

Unfortunately, the approach of using previous findings (mainly focused on face-to-face teams) to understand VTs has led to many inconsistencies with definitions, methods (e.g., survey or observational) and sampling (e.g., known teams or put together only for research) to name a few. Furthermore, it is not clear whether previous findings can be generalised to teams who have suddenly become virtual, because of a crisis (e.g., pandemic). Therefore, it is unclear whether teams who have known each other prior to moving to VW or higher levels of virtuality, would experience the same challenges as previously reported. This includes challenges with building or maintaining trust, cohesion, communication, satisfaction, and team effectiveness.

Additionally, although there have been many blogs, articles, and studies regarding the impact of VW during the pandemic in different industries, including the impact of VW for physical health teams or the impact on clients using mental health services, to our knowledge, the experiences and voices of teams providing the care, including secondary mental health MDTs has been neglected. Bartsch et al., (2020), following on from their research on how leaders may lead their employees effectively during COVID, recommended the need for further research to explore the impact of COVID and VW within health care industries. Furthermore, what has been shared regarding VW through blogs, articles and studies appears to have had a focus on the impact on individual team members (e.g., challenges with working from home or challenges leaders and managers have faced) rather than the impact on teams as a whole and their effectiveness.

As the use of MDTs including virtual MDTs continues to increase, so has research around understanding and supporting team effectiveness (Lacerenza, Marlow, Tannenbaum and Salas., 2018). Beyond the pandemic, many services (including mental health services) have already begun talks about keeping some aspects of VW. Therefore, a better understanding of virtual or hybrid teams will help these services as well as stakeholders' considering possible implications of VW on their teams and service users (Martins, Gilson and Maynard., 2004; Bailey and Kurland, 2002).

This understanding could further help with revisiting challenges that teams may have been facing in the NHS pre-pandemic such as the lack of desk space and travel costs for multidisciplinary or multiagency work. Virtual working could also help with other costs and stressors for NHS staff such as limited parking spaces. Additionally, with the huge financial challenges the NHS has faced because of the pandemic, if VW can reduce some costs, further consideration needs to be made regarding how to ensure the initiation and maintenance of factors such as cohesion and trust.

If, VW can help MDT effectiveness, this can also help better outcomes for staff, (e.g., better job satisfaction and reduced burnout, two key concerns within the NHS) and for clients (e.g., better safety and care). It is also the recommended approach by NICE for many difficulties secondary mental health services may support.

1.16. Aims

The current study aims to offer some insight into the functioning of MDTs in secondary NHS mental health working virtually during the pandemic. Specifically, experiences of perceived team cohesion, trust, satisfaction, communication, and team effectiveness. The study also aims to contribute to the pictures developing of experiences of these teams during the pandemic as well as providing a starting point in thinking about what could help and hinder the effectiveness of these MDTs going forward, especially if they are to continue utilising VW.

1.16.1. Research Questions

1. How has VW during the pandemic, changed the way NHS secondary mental health MDTs work?
2. Has VW during the pandemic had an impact on team processes such as trust, perceived cohesion, and communication in these MDTs?
3. Has VW during the pandemic had an impact on team outcomes such as effectiveness and satisfaction for these MDTs?
4. Is there a link between the processes and outcomes from questions two and three in these MDTs?
5. What do MDT staff from NHS secondary mental health teams say about VW during the pandemic?
6. How can we use the answers to these questions and previous findings to help VT effectiveness for secondary mental health MDTs?

1.16.2. Hypotheses

Null Hypotheses:

H1. There will be no differences between pre-pandemic and during pandemic experiences of process factors (Perceived team cohesion, team trust).

H2. There will be no differences between pre-pandemic and during pandemic experiences of outcome factors (team effectiveness and satisfaction).

H3. There will be no correlations between process factors (Perceived team cohesion, team trust) and outcome factors (perceived team effectiveness and satisfaction).

H4. There will be no correlation between perceived team cohesion and team trust (process factors).

H5. There will no correlation between perceived team effectiveness and team satisfaction (outcome factors).

Alternative hypotheses:

H1. There will be a decline in team process factors (perceived team cohesion and team trust) during the pandemic.

H2. There will be a decline of team outcome factors (perceived effectiveness and team satisfactions) during the pandemic.

H3. There will be a positive relationship between team processes (perceived cohesion and trust) and team outcomes (perceived effectiveness and team satisfaction.)
This positive relationship will show that better perceived team cohesion and higher trust will contribute to better perceived team effectiveness and satisfaction.

H4. There will be a positive relationship between perceived team cohesion and team trust process factors.

H5. There will be a positive relationship between outcome factors (perceived team effectiveness and overall satisfaction).

1.17. Epistemological Position

The chief investigator of this study holds a critical realist epistemological stance on the topic of teamwork research. This stance would suggest that based on theories of teams, teams are an observable phenomenon that objective scientific approaches (e.g., quantitative measurements) can study (similar to a positivist stance). Similar to a post-positivism stance, a critical realist would also suggest that we can never truly know something for certain based on objective measures and evaluations, we can never determine the absolute truth. Therefore, they would propose that alongside objective measures, our experiences are important in how we understand and explain things.

In relation to teams, this means whilst much of our understanding of them come from objective findings, our knowledge of teams is expanded through identifying how different constructs, perspectives, experiences (from each individual and systems) and, of course relations can influence them. This can be seen in the non-linear, multi-level IPO model which highlights how different factors from different systems and constructs (e.g., experiences of leadership, government strategies, a pandemic) influence our interactions, experiences and understanding of a team and their outcomes or effectiveness.

Critical realism has been known to be "concerned with the nature of causation, agency, structure, and relations, and the implicit and explicit ontologies we are operating with" (Archer et al., 2016). Therefore, my critical realist stance shaped this study to allow for exploration of structures and relations (correlations) within teams using quantitative methods using objective measures as well as open questions to help further understand ontologies teams operated within. This appears consistent amongst previous researchers in the topic area of VT research where typically, team behaviours have been quantified to understand relational team factors.

Critical realists also remind us that findings come with limitations (e.g., may not be able to specify cause and effect and may not be understood or used by all the same. This would fit with my approach as a psychologist where in my clinical work I always hold formulations and explanations for the experiences of our clients but remain aware of the limits of these explanations. For example, as a critical realist, I hold and use psychological theories with the knowledge that these theories are limited and will never be absolute.

Furthermore, as a reflexive clinician, I frequently reflect on my choices (e.g., narratives, theories and models used), exploring how they have come about and the limitations and strengths this may have. This partly comes from my critical realist stance where critical realism notes that despite quantitative or objective methods, our knowledge of the world and teams, has been persuaded by each individuals values, social interests, and experiences (e.g., social class, NHS band, living through the pandemic). Therefore, this would have influenced the directions this research took such as the definitions chosen and what process or outcome factors were chosen from the IPO framework to explore. Other limitations of this methodology will be discussed in chapter five.

Whilst being aware of limitations of the design and methods (e.g., true cause and effect unknown), casted doubts on my approach to this study, my epistemological stance drove the project on. This is because it helped remind me that the aims should not be for a project to question and assess everything (e.g., all aspects of a team) or to give all the answers to questions because there is no absolute truth. Furthermore, I was reminded that critical realists hold, “it is possible for social science to refine and improve its knowledge about the real world over time” (Archer et al., 2016) therefore, the aim should be to contribute to the refinement and improvement of our knowledge of teams and the pandemic.

It is crucial to highlight that the methodological decisions, influenced by previous research and the researcher’s epistemological stance does not deny the usefulness of other

methodologies such as a qualitative approach for developing our understanding of teams which can in fact, help aid further research. Indeed, over time there have been many critical realists within the field of philosophy, psychology and organisation studies who have used qualitative approaches such as discourse analysis, grounded theory, interviewing, ethnography, and case studies (Vincent and O'Mahnoey, 2018).

Teams are complex and had barriers such as the pandemic, personal circumstances and doctoral requirements been different, an alternative epistemological stance and methodological designs may have driven this project. As critical realists would suggest, alternative epistemologies and so approaches and methodologies, should be considered as they would contribute to knowledge of social sciences. Gathering of different epistemologies could also help in understanding MDTs because different professional groups can operate from different epistemological positions which influence the way they view the world (Clark, 1997), the way they work within teams and perhaps, arguably, their interpretations and views of the findings of this study.

Chapter 2. Systemic Literature Review

2.1. Chapter Overview

This chapter will present an outline of the systematic literature review (SLR) conducted, on VT effectiveness. The search strategy is mapped out before the presentation of findings, evaluation of the relevant literature, and gaps in the current knowledge.

2.2. Search Strategies

The SLR search was initially carried out in May 2021 and reviewed in January and March 2022, following changes in the researchers' circumstances resulting in delays to the thesis write up. The aim of the SLR was to explore and identify empirical literature that could help answer the question, "*What does the existing literature say about virtual team processes (cohesion, trust, and communication) and outcomes, specifically, virtual team effectiveness and satisfaction?"*

2.2.1. Databases

The following databases were used and where necessary, the University of Hertfordshire Learning Resource Centre and the Google search engine were used to source identified papers. It should be noted that the topic area of teams and VW appears very dispersed in literature (e.g., psychology, finance, engineering) therefore, this systematic literature review is limited by the databases used.

- Scopus – large database that covers science, technology, medicine, social sciences as well as arts and humanities.
- PubMed – large database that stems from biomedicine and health fields (e.g., life and behavioural sciences). One of the primary sources of data in PubMed is from Medline.
- Medline (via PubMed and EBSCOhost) – database of life sciences and biomedical information.

- INAHL (via EBSCOhost) – Cumulative Index to Nursing and Allied Health Literature is a database of nursing, allied health, biomedicine, and healthcare data.
- APA PsychArticles– database of articles published by the American Psychological Association and affiliated journals.
- IEEE Xplore – The Institute of Electrical and Electronics Engineering is a digital database with a specific focus on areas such as computer science and allied fields.
- Google Scholar – A database covering a vast scholarly literature. Due to its large coverage and practical searching limitations, this database was only used as an additional source rather than a main source for exploring existing literature.

2.2.2. Search Terms

Tables 1 and 2 present the different terminologies, Boolean expressions (AND, OR, NOT) used. Initially, broad search terms were used and combined to maximise the search. This was funnelled down gradually to yield more relevant results. Eliminated terms are presented in table 1 with a line crossing through and within the fourth raw. These terms were excluded due to the large number of data presented by the databases which were deemed inappropriate (e.g., focus on patients, physical health or software and hardware) or deemed out of scope for the SLR. Nonetheless, it was found that despite the removal of some of these terms (“distributed team”, trust, cohesion, and communication), results still consisted of research which included such terms.

2.2.3. Inclusion and Exclusion Criteria

Table 2 also presents where Boolean expression “NOT” was used to narrow search results based on the inclusion and exclusion criteria. The terms and words excluded were also based on identification of areas dominating initial search results of the SLR, deemed not connected to the aims of this project. Whilst some of the terms dominating results (e.g., software, hardware, and artificial intelligence) were not surprising given the topic area, others

(e.g., dementia and cancer) were a surprise for the research team which highlighted to the research team exactly how vast the topic area of VW is and how little we may have heard about it prior to the pandemic rather than how little is known in the world of research.

Table 1

Systematic Literature Review Search Terms

Concept #1: Way of working	"AND"	Concept #2: Impact on teams
"Virtual team" OR "Remote team" OR "telemedicine"		**"Effectiveness" OR "~~Team~~ outcome OR "~~Team~~ performance ~~OR~~ "Team effectiveness"**
Concepts explored but not used for final search		
Online OR "Tele* team" OR Digital OR "Distributed team" OR Dispersed "Virtual working" OR "Remote working" OR "Hybrid working"		"Team eff*" OR "Team evaluation" OR Teamwork OR "Effective team" OR Cohesion OR Trust OR Communication OR "Knowledge sharing" OR Satisfaction

Table 2

Inclusion and Exclusion Criteria for the Systematic Literature Review

Inclusion Criteria:
Articles in the English language
Articles from any geographical location
Peer reviewed papers
Studies using qualitative, quantitative, or mixed methods designs
Studies with a human sample (e.g., NOT animal)
Studies focused on national virtual work teams (e.g., NOT student, NOT education, NOT academic, NOT university, NOT school, NOT "global virtual team")
Studies focused on the whole team (e.g., not those focused on leaders)
Primary focus on at least one of the process factors discussed in chapter 1 (e.g., team trust, cohesion, communication, satisfaction, and effectiveness).
Exclusion Criteria:
Grey literature (e.g., policy documents, guidance)
Literature of non-peer reviewed articles/ Letters/ reviews/ editorials/ conference reviews/ books and book chapters
Focus specifically on IT tools and applications (e.g., NOT software, NOT hardware, NOT 3D, NOT "artificial intelligence"
Studies focused on clients (e.g., NOT cancer, NOT dementia, NOT surgery, NOT memory)
Studies focused on clinicians from only physical health settings (e.g., Surgical teams)

Originally, an exclusion criterion was placed for data to be between 2007 and beyond because it was during this time, that there was a big move from dial-up internet to Wi-Fi broadband which may have, led to easier and broader virtual work opportunities. However, we found that much of the research discussed in chapter one was prior to 2007 therefore this exclusion was not implemented.

It must be acknowledged that some of the criteria could have been different had it not been for the limitations of a thesis project (e.g., time restraints and word count limits) in particular, during the challenging times of COVID-19 pandemic. For example, other databases could have been used, papers not in the English language could have been included as well as non-peer reviewed data and grey literature. It must also be noted that whilst many other papers exploring teams identified different inputs, processes, and outputs in VTs, due to the focus of this study being cohesion, trust, communication, VT effectiveness and satisfaction, other input, process, or output factors were excluded.

2.2.4. Selection Process

Following a search generated on each database using information from tables 1 and 2, after removal of duplications, 971 titles were reviewed resulting in 184 abstract reviews. Finally, 47 articles were then chosen for a fuller-text review resulting in nine papers being chosen for the SLR. The PRISMA 2009 flow chart (Figure 5; Moher et al., 2009) is used to present the selection process and Table 3 presents the summary of the selected studies.

2.3. Summary Review of Findings

The studies chosen for this SLR include nine empirical articles of which, one used a qualitative design (case studies), six used quantitative designs (surveys) and two used a mixed-methods design (surveys and interviews). Although typically, literature reviews or meta-analyses are not recommended and used for SLRs, a number of these were identified in the SLR search. Two of these papers re-occurred in majority of the databases used for the

SLR search. Therefore, a decision was made to include these two papers in the SLR to enrich our knowledge of the existing literature regarding virtual teams. Empirical studies were conducted in continents of America, Europe, and Asia. Details of each paper, including summary findings, strengths and limitations are presented in Table 3 and are further discussed in this chapter.

Figure 5

PRISMA Flow Diagram of the Systematic Literature Selection Process

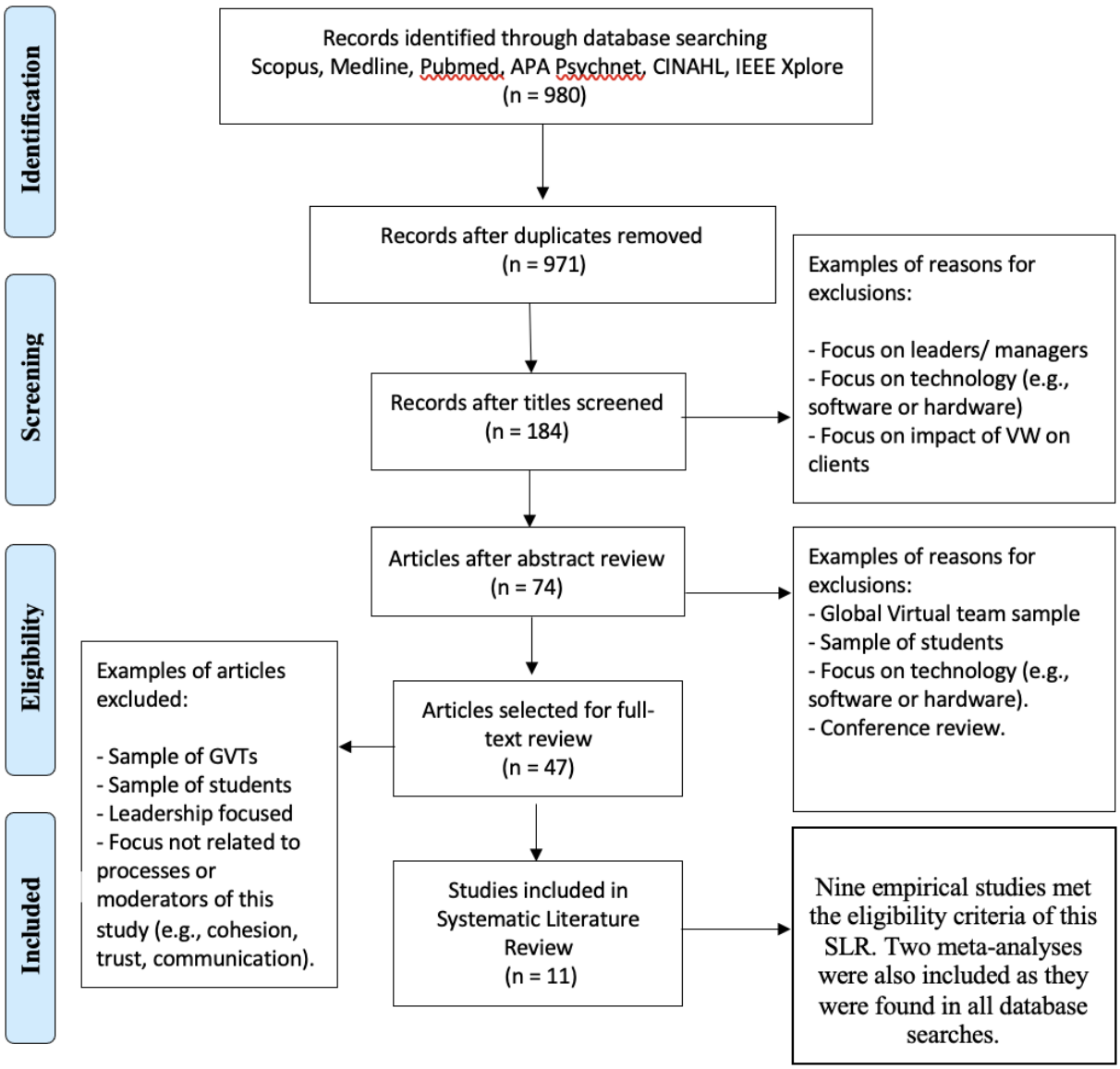


Table 3

Summary of Studies Included in the Systematic Literature Review

No	Authors (Year)	Title	Aims	Methodology	Participants	Key Findings	Strengths and Limitations
1	Ehsan, Mirza and Ahmad (2008)	Impact of Computer-Mediated Communication on Virtual Teams' Performance: An Empirical Study.	Comparing team cohesiveness among VTs using computer-mediated communication and non-computer-mediated communication mediums. Focus on: Communication, Cohesion and Team Performance.	Mixed Methods Interviews and questionnaires which included Likert scales.	100 VT members from a multi-national organisation completed questionnaires. Participants were from the USA and Asia.	Computer-mediated communication can help VTs increase team cohesiveness among their members. Suggesting this approach is an effective medium for increasing productivity and team performance. There is correlation between cohesiveness and performance. As cohesion increases so does performance. VW can have a negative impact on team cohesiveness and performance.	*Strengths:* - Use of IPO framework to develop the basis of the study. - Focus on only 2 process factors. - Looked at components of cohesiveness (e.g., interpersonal attraction, group pride, task commitment) - Identified differences between permanent and ad-hoc teams. - Looked at different modes of communication including telephone and e-mails which allows for specific recommendations for interventions to help increase cohesiveness in VTs. *Limitations:* - Lack of information about input factors even within the sample (e.g., gender, age). - Did not define what they meant by multi-national therefore generalisations must be used with caution. - Did not specify specific platforms used for each media level.

No	Authors (Year)	Title	Aims	Methodology	Participants	Key Findings	Strengths and Limitations
2	Plotnick, Hiltz and Privman (2016)	Ingroup Dynamics and Perceived Effectiveness of Partially Distributed Teams	Explore whether ingroup dynamics negatively impact perception of effectiveness in partially distributed teams and if so, how strongly? What factors can lessen ingroup dynamics – specifically can training or reliable ICT support decrease ingroup dynamics? Does organisational context affect these relationships? Does whether or not the partially distributed team is international affect these relationships? Does the number of subgroups in a partially distributed team affect these relationships?	Quantitative Online survey with 21 questions	243 professionals with experience in partially distributed teams – X2 subsamples – one form a single large telecommunications company and of from a mix of organizations.	Ingroup dynamics had a strong negative relationship with perceived team effectiveness. Reliability of technology and training significantly reduced ingroup dynamics. In sample one, training increased ingroup dynamics suggesting training may not always be beneficial. International membership or number of subgroups were not significant moderators.	*Strengths:* - One of the few studies looking at partially distributed teams - Introducing some of the possible input factors in the field of team research (e.g., team size). - Did not make comparisons with face-to-face teams. Limitations: - Constrained by survey lengths. - Not all questions from the scales used were included. They created some adaptions. *Limitations:* - Participant responses were based on perceptions at one point in time. - As the whole team was not the unit of analysis, input factors such as organizational boundaries could not be assessed. - Measures used, in particular, ingroup dynamic measure were not at the time tested by other empirical studies. - Focus on individuals' perceptions and experiences without any exploration of the team themselves.

No	Authors (Year)	Title	Aims	Methodology	Participants	Key Findings	Strengths and Limitations
3	Lurey and Raisinghani (2001)	An empirical study of best practices in virtual teams	Exploring the effectiveness of VTs. Specifically looking at team performance which consisted of the team's ability to perform their work assignments and the team members level of satisfaction.	Quantitative Cross sectional survey which included content analysis.	12 teams from eight companies from the United States and some countries in Europe were invited to participate from field such as technology, agriculture, and professional service industries. 67 people participants and they belonged to 12 different virtual teams from the eight companies.	Several factors were positively correlated with the effectiveness of the VTs. Team processes and team members' relations presented the strongest relationships to team performance and team member satisfaction. Leadership styles also exhibited moderate associations to effectiveness. Other internal group dynamics presented with weaker relations. Correlations between communication patterns and technological tools and effectiveness did not prove significant. Much of the results were like those of co-located teams suggested previous interventions should be considered.	*Strengths:* - Use of IPO framework for assessing team effectiveness in line with previous literature findings. - Variety of organisations were invited to take part. - Use of content analysis alongside the quantitative measures allowed for identification of experiences beyond statistical results. - Piloted study - Acknowledged possible impact of input factors such as educational levels, reward systems and access to tools. *Limitations:* - Teams were from different countries and possible implications of this and differences between them were not examined. - Teams from each company would have varied significantly in relation to organisational impact and goals. - Participants were selected by their sponsor organizations which raises the question of who was then not invited. - Focus on individuals' perceptions and experiences without any exploration of the team themselves.

No	Authors (Year)	Title	Aims	Methodology	Participants	Key Findings	Strengths and Limitations
4	Raisiene, Raouano, Varkuleviciute and Stachova (2020)	Working from Home – Who Is Happy? A Survey of Lithuania's Employees during the COVID-19 Quarantine Period.	Exploring the advantages and disadvantages of VW.	Quantitative Questionnaire Scales included one for evaluating motivational factors. All measures used a Likert scale.	436 VT workers from Lithuania	Men expressed more negative attitudes towards VW and information overload. Women were more likely to prefer opportunities VW brought. Generation of participants negatively influenced the efficiency of VW. E.g., older participants reported more negative experiences with VW. Additionally, baby boomers reported to be more effected by the lack of face-to-face. Those with higher education levels reported higher self-confidence and satisfaction when VW provided opportunities for independent working and decision making. Participants who worked remotely for up to two days per week placed more emphasis on advantages of VW.	*Strengths:* - One of the few studies focusing on input factors such as gender, age and education and the correlations between these and team effectiveness. - Sufficiently large sample. - Included some participants who worked virtually before the pandemic and some who did not. - Methodology allows for reliability. *Limitations:* - Despite the large sample size, it was reported that number of respondents were not large enough to allow for categorical statements. - Did not comment on the possible norms and values impacting teamwork in Lithuania therefore generalisations must be used with caution. - Whilst it is brilliant this study was done; it must be noted that this was in the initial stages of the pandemic, and it is not clear whether results may have changed if conduced later on. Therefore, replications maybe beneficial.

No	Authors (Year)	Title	Aims	Methodology	Participants	Key Findings	Strengths and Limitations
5	Kimble (2011)	Building Effective Virtual Teams: How to Overcome the Problems of Trust and Identity in Virtual Teams.	What role does trust, and identity play in virtual teams.	Qualitative case study methodology Case study information was collected using face-to-face interviews, e-mails, faxes, company reports and phone calls.	10 case studies that illustrate different VTs from different sectors. Participants were from sectors such as software development, legal services, secretarial services, research and consultancy, home based market research, hospital and medical services and enquiries of home-based workers. Members were nationally or locally spread to work (one team also worked internationally). Teams were from countries such as Northern Ireland, North England, Germany, France, Southern Italy, Scotland, and Greece.	VW had many advantages such as flexibility for members, expert time was used more efficiently and effectively and cost savings (to name a few) However, VTs faced challenges such as unreliable systems and incompatible networks to slow computers. Most importantly, the study found issues with trust as being the most problematic for team effectiveness. Lack of knowledge about team members identities also contributed to issues of VW. On an organisational level, it is us as humans who now need to develop, adapt, and respond to the many opportunities VW can bring.	*Strengths:* - Examined and discussed each team separately, allowing for better understanding of teams from the different countries. - Acknowledgement that teams are built of individuals and so it is important to be mindful of individual factors and individual needs when VW. - One of the few qualitative studies focusing on work teams. *Limitations:* - Very broad sample (e.g., employment sectors). As we know, different sectors are likely to have different facilities, constructs, goals therefore generalisations must be used with caution. - Continent based (Europe) Sample – as previous research suggests, different countries are likely to hold different norms, values and expectations when working within a team which could impact interpretations of the team's effectiveness or what is perceived as team cohesion or trust.

No	Authors (Year)	Title	Aims	Methodology	Participants	Key Findings	Strengths and Limitations
6	Lu (2015)	Building trust and cohesion in virtual teams: the developmental approach.	Examining the mediating effects of trust and cohesion on the links between psychological factors and work outcomes among Chinese employees VW.	Quantitative survey method completed at three different time points. Used standardised measures such as: Depp-level psychological fitness scale, Trust Scale, Overall Performance Subscale from Team Performance Scale, Group Integration Scale (for cohesion) and parts of the Team Performance Scale measure was used to examine satisfaction. Also developed measures for exploring shared social activities.	388 full-time VT employees from different industries in Taiwan. 51.80% male and 48.20% female with a mean age of 33.5.	Trust needs to be established in VTs. Trust and cohesion were two key psychological mechanisms linking team psychosocial factors and work outcomes (e.g., satisfaction and team performance). Development and functioning of work teams is like the formation and functioning of social relationships. Nurturing team dynamics can have long term benefits for the teams' success levels but also for the individual members.	*Strengths:* - Highlighted that we need to unpack each level of I-P-O and that its difficult to research all together. - Was with the team from conception and so was able to measure factors such as perceived psychological similarities. - One of the few studies in the field (to our knowledge) that was with the team from conception and considered team factors not just from the perspective of individuals. - Data collected at different life stages of the team. - Referenced the IPO framework similar to previous studies which allows for expansion of the framework and our understanding of teams. *Limitations:* - Sample may not be generalisable to other countries. - Some measures were translated which could result in limitations however, parametric tests showed good fitness. - Only focused on one society in China and identified there might be differences within different communities.

No	Authors (Year)	Title	Aims	Methodology	Participants	Key Findings	Strengths and Limitations
7	Alsharo, Gregg and Ramirez (2016)	Virtual team effectiveness: The role of knowledge sharing and trust	Exploring the relationship between knowledge sharing, trust, collaboration, and team effectiveness in VTs.	Quantitative online survey design. Positivist epistemological stance. Used Mayer et al.'s trust measure Team effectiveness was measures using Lurey and Raisinghani's paper.	193 Virtual team members from an information technology-based organisation working on random projects. Recruitment: LinkedIn	Knowledge sharing positively influenced trust and collaboration in VTs. Whilst trust positively influenced collaboration, it did not have a significant direct effect on team effectiveness. Trust did not have a direct effect on team effectiveness. This relationship between trust and team effectiveness was mediated by collaboration.	*Strengths:* - Used a standardised trust measure (Mayer et al., 1995) used by many other researchers. - Used Lurey and Raisinghani;s (2001) effectiveness measure which also measures satisfaction and has been used by previous researchers. - Based on theory - Use of social media for recruitment which would have allowed for a wider sample. *Limitations:* - Due to their sample being familiar with IT, results do not take into account previously found relations between IT skills and work satisfaction and VW experiences. - Lack of acknowledgement for possible input factors. - Sample consisted of VTs put together only for a project. - One of the measures used had previously been designed and used for examining non-virtual teams.

No	Authors (Year)	Title	Aims	Methodology	Participants	Key Findings	Strengths and Limitations
8	Pangil and Chan (2013)	The mediating effect of knowledge sharing on the relationship between trust and virtual team effectiveness.	Examine the relationship between trust and virtual team effectiveness by looking into the mediating effect of knowledge sharing.	Mixed Methods Quantitative online survey and unstructured interviews with some respondents. Cross-sectional study	206 VW individuals from a multinational company in Malaysia.	Regression analysis indicated that knowledge sharing and three types of trust all significantly related to virtual team effectiveness. Although, knowledge sharing only partially mediated the relationship between two types of trust and team effectiveness. Trust plays a major role in teams and team effectiveness. However, trust was not a predictor for knowledge sharing. Up-to-date IT tools could help.	Strengths: - Focus on one factor. - Examination of three different components of trust. - Included but specifically identified results from team leaders or project managers. - Looked at three components of trust. - Use of measures used by Lurey and Raisinghanis (Similar to this study and previous studies). - Using standardised measures previously used within VT research. Limitations: - Small sample size - Participants are from a team put together for the completion of a project. - Sample of a single organisation which may not be generalisable to other teams and other disciplines. - Did not examine and report on input factors such as team size.

No	Authors (Year)	Title	Aims	Methodology	Participants	Key Findings	Strengths and Limitations
9	Saafein and Shaykhian (2013)	Factors affecting virtual team performance in telecommunication support environment	Investigating factors that affect virtual team performance. Factors include communication tools, cohesion and collaboration, leadership, trust, location of team member and team size.	Quantitative survey methodology	120 professionals in high-technology telecommunication industry participated from California.	Participants perceived reliable communication tools and cohesion as a more significant performance factors than leadership. Participants ranked the following factors as either very important or important for the VT (in order from highest ranked to lowest) - Reliable communication tools, Cohesion and collaboration, Leadership, Trust, Location of team members and team size.	Strengths: - Although there was a focus on leaders and leadership, unlike previous studies that examined this with leader/ managerial samples, this study used team members perspectives too. Limitations: - Small sample - Sample my not be generalisable due to specific nature of profession of participants as well as their locality.
10	Driskell, Radtke and Salas (2003)	Virtual Teams: Effects of Technological Mediation on Team Performance	Examining the effects of VW (mediator) within the processes section of the I-P-O model including cohesion and communication as well as team output (effectiveness).	Meta-analysis Review of literature		To develop and maintain trust and cohesion in VTs, psychosocial aspects of teams need to be nurtured to help effectiveness. Non-work-related information can prompt better or positive perceptions of trust and cohesion which can lead to better member and team satisfaction as well as better team performance.	*Strengths:* - Identification of studies that have compared face-to-face and virtual teams and compiling this much needed information. - Use of IPO framework like previous research. *Limitations:* - Very broad in relation to the factors of the IPO framework which could limit comprehensive knowledge about any of the factors.

No	Authors (Year)	Title	Aims	Methodology	Participants	Key Findings	Strengths and Limitations
11	Martins, Gilson, and Maynard (2004)	Virtual teams: What do we know and where do we go from here?	Review of research on VTs	Systematic literature review from leading journals in management, international business, information systems, psychology, and business communication.	93 empirical articles of which, 66 were lab studies, 13 used "real teams" and 14 were case studies.	They found several inputs, processes and outcomes that had been studies. Through this, they identified many inconsistencies in definitions and measures used by previous researchers. They also highlighted that empirical research in the field of VT research is limited and offers few consistent findings. They promote continual use of the IPO framework for continuing the directions of the field. They highlighted the importance of media richness for communications in VTs. They also identified that like team inputs, research is limited in relation to different team outcomes.	*Strengths:* - Categorising using I-P-O framework, similar to previous literature. - At the time this review was written, this was required to put all the research together. Since then, there have been many other similar reviews however what appears to still be limited is empirical research. - Drawing knowledge (at the time of the study) together for a field that is full of inconsistencies. *Limitations:* - Unclear how the reviewed literature was selected. - Arguably, synthesis could have been driven by the researchers interests which were not included in the paper. - Reliance on reliability and validity of previous studies.

To evaluate the quality of the studies included in the SLR, three different quality criteria checking tools were used to allow for quality checks of quantitative, qualitative and mixed-methods research separately. This included the Critical Appraisals Skills Programme (CAPS) tool for the qualitative studies. The Good Reporting of a Mixed Methods Study (GRAMMS) tool was used for studies with mixed methods and the Appraisal tool for Cross-sectional studies (AXIS, Downes et al., 2016) was used to assess quality of quantitative studies. Summary table of these evaluations are presented in Appendix A.

When looking at virtual team effectiveness, the SLR findings, appear to agree on six key factors:

1. Teams are an important part of our world and when we work collectively as a team, we perform better, are more satisfied and are more effective.
2. Previous research has provided contradictory information in terms of definitions, measures, and findings when exploring VT effectiveness.
3. Whilst there are some benefits to VW for team effectiveness (e.g., use of experts, increased productivity, better working environments and increasing cost effectiveness); VTs face more challenges compared to face-to-face teams (e.g., technical problems, delayed response times and barriers with creating and maintaining trust and cohesion).
4. Effective communication is the key to any effective team as it supports trust, cohesion, satisfaction, and other team outcomes.
5. Our knowledge about VTs is limited therefore, further research is required to help us understand and support VT outcomes.
6. Many studies have focused on the relationship between processes and outcomes however, input factors have largely been neglected and we need further data in this area.

To best present the findings of the SLR, the summary of the findings has been organised and grouped under input, process, and/ or output factors as often drawn within the IPO framework and its adaptations used by previous researchers (including five of the studies selected for this SLR). It is important to acknowledge that many factors influence a team's inputs, processes, and outputs. However, for the purposes of this study, we were specifically interested in the impact of VW on team cohesion, trust and communication (processes) and team effectiveness and satisfaction (outputs), all of which have been found to be some of the most commonly explored factors in the field for both face-to-face and virtual teams.

2.3.1. Input factors

As shown in chapter one, figure 1, there are many team-level and individual level input factors that can impact a team's processes and outputs. Despite a focus on process and output factors in chapter one, input factors must also be considered as factors such as individual characteristics (e.g., age and gender) can impact our perceptions and so experiences within a team and consequently team processes and outcomes.

The lack of discussions regarding input factors for VTs is also true of the studies found in the SLR. One reason for the lack of focus on individual factors may be that individual factors can be more difficult to distinguish and monitor (Driskell, Radtke and Salas, 2003). None-the-less, input factors have not completely been neglected. The SLR showed that individual factors, in particular gender and group size, have been mentioned by previous researchers but mostly, secondary to the primary analysis and hypotheses of these studies. Therefore, they remain somewhat neglected.

Additionally, whilst we have knowledge of the impact of some input factors (e.g., team size) and team effectiveness in traditional teams, the extent to which these factors could impact VTs is not well known. However, the SLR found one exception to this which is Raisiene et al's (2020) study focusing on gender and age and their relationship to experiences

of being part of a VT during the pandemic. The authors found that amongst their Lithuanian participants, women valued working from home more than men. They also found that, older participants were more likely to emphasize disadvantages of VW whilst younger participants (in particular, Millennials) emphasized advantages.

Another important input factor which can have a direct impact on process and so outcome factors is each team members previous experiences with teams. For example, Rentsch, Heffner and Duffy (1994) found that our previous experiences affect how we understand team dynamics, in particular processes within teamworking. They found that team members with higher team experiences required less training and expressed different experiences with their team compared to colleagues with lower team experiences. This suggests that previous studies, including those from the SLR should consider previous personal experiences that may have contributed to results specially those relying on perceptions (e.g., perceived cohesion and team effectiveness.

Similarly, the social identity theory by Tajfel (1979) would highlight the multiple factors that could impact a team's process and outcomes due to its influence on input factors. According to this theory, a team members sense of who they are can be dependent on their group membership which can vary dependent on the team (e.g., family, football team, discipline only work team). It is then these teams who provide us with a sense of social identity, a sense of belonging which could then impact how we perceive our experiences with a team including how we perceive team cohesion, trust, communication, and effectiveness.

These experiences could then lead to categorization of people we meet. This could lead to in-group and out-group dynamics which suggest that team members from an in-group (e.g., discipline only team) may look for, find, and express negative aspects of an out-group (e.g., another discipline). This again highlights the limitation of previous research where such

input factors have been neglected despite, previous research focusing on connections and interactions which in the IPO framework would fall under process factors.

Overall, input factors remain neglected by researchers and where they have been looked at, focus appears to have been on age, team size and gender, leaving other individual level factors (e.g., race, socio-economic status, personality, salary status) elusive. One solution to this problem is recommended by Lu (2015) who reminds us that teams are composed of individuals; therefore, we should also consider "unpacking" individual factors to support our understanding of teams and strategies to support them. Process factors on the other hand, have been extensively examined in virtual and non-virtual teams.

2.3.2. Process Factors

Process factors can be organised under two categories. Firstly, processes can be identified as socio-emotional processes (e.g., building relations, cohesion, and trust), which can also be referred to as interpersonal processes. Second, processes can also be identified as task processes (e.g., communication) which have also been known as action processes (Powell et al., 2004, as cited in Lu, 2015). In relation to this study, focus will be placed on two socio-emotional or interpersonal processes (VT trust and cohesion) and one task or action process (VT communication).

2.3.2.1. Trust

Whilst some articles had a specific focus on trust within VTs (e.g., Pangil and Chan, 2013), they were not alone in considering trust. Other studies regardless of their initial aims also introduced, explored, or highlighted trust as a key process factor negatively impacted by VW (Garro-Abarca, Palos-Sanchez, and Aguayo-Camacho, 2021; Lu, 2015; Martins et al., 2004). These findings have all also presented a relationship between trust in teams and cohesion, satisfaction, knowledge sharing and team effectiveness.

For example, Pangil and Chan, (2013), consistent with previous findings found that trust played an important role in VT effectiveness and that VW negatively impacted trust. The authors suggested that working virtually often means we are not able to work with or monitor our colleagues work and therefore more trust is needed in VTs. They also reported that loss of trust contributed to higher risks of conflict which could impede team outcomes.

However, findings have been mixed regarding the direction of the relationship between VT trust, and team effectiveness. For example, whilst some have found a positive relationship between trust and team effectiveness, others have found negative relations or no relationships at all (Alsharo, Gregg and Ramirex, 2017). One reason for this may be that unfortunately, there are inconsistencies in how trust is defined and measured.

Additionally, some studies have found that trust is not always a moderating factor for team effectiveness (Alsharo, Gregg and Ramirez, 2017) and in fact, some studies have found that level of trust does not always have a significant direct impact on team performance (Aubert and Kelsey, 2003). Despite these inconsistencies, what is consistent is that all previous studies (virtual or face-to-face studies) highlight that trust is important in teams, VW can be a barrier for building and maintaining trust and better virtual communication could support reduce such challenges.

2.3.2.2. Cohesion

Similarly, although findings from previous research have been mixed regarding the relationship between cohesion and team performance, consensus remains that cohesion is important for team effectiveness and can be impacted by and can impact inputs, other processes, and outputs in VTs. They also agree that our understanding of cohesion in VTs remains limited.

A barrier to exploring cohesion in VTs has been that cohesion can have many different components and so, for some researchers, focus has shifted towards exploring

cohesion in teams separate from any relationship to other factors. For example, Driskell, Radtke and Salas (2003) dissected cohesion into three components.

1. Interpersonal attraction (socio-emotional and interpersonal bonds):

   Feelings of affection and affection towards colleagues.

2. Group pride (normative bond):

   Shared beliefs, satisfaction, and loyalty towards colleagues.

3. Task commitment (instrumental bond):

   Loyalty and attraction towards tasks, satisfaction with these tasks and team goals.

Based on these components, Driskell, Radtke and Salas (2003) hypothesises that VW impacted all three components therefore it was hypothesised that VW would have a negative impact on cohesiveness when defined as interpersonal attraction, group pride or task commitment. The authors suggested that distance within VTs could be a contributing factor to a decrease in these components. Additionally, it is suggested that in VTs, normative bonds can be reduced which can result in less pride and loyalty towards the team and colleagues. Although, it was argued that this may be less of an issue in permanent teams (e.g., those who have become virtual as a result of COVID). However, this requires further analysis as previous studies with permanent VTs are limited.

Furthermore, it is reported that in VTs, reduced interactions may produce less intimacy which can be a barrier for building relationships and so, cohesion (Driskell, Radtke and Salas, 2003). The study further highlights the unfortunate unknown cause and effect of team factors specially when using the IPO framework. For example, it could be questioned whether lack of cohesion reduced intimacy in building relations, or whether virtual communication barriers reduce intimacy and so building of relations? Whilst identifying barriers and relations is important, examining the cause and effect (and their direction) of

these factors could further support recommendations for interventions to support teams. This could also identify future directions for research.

The SLR findings, also showed a reoccurring theme that VT cohesion is constrained because of reduced opportunities for non-task related engagements. One theory that could be used to understand this further is the Symbolic Convergence Theory (Bormann (1983, 1996). This theory explores how a group may begin to develop a shared identity through re-sharing of shared stories (e.g., stories only the group would understand) leading to a more cohesive group. Such interactions can create collective discussions, cohesion, enjoyment, and better relationship quality with colleagues. However, it has been found that VTs do not have enough opportunities to create such stories and later, may not have opportunities to re-tell said stories or repeat these interactions.

However, in traditional teams who move to work virtually (e.g., because of COVID), arguably, shared stories already exist and so what might be needed is a space for re-telling the stories rather than the creation of the stories. This is important to explore as Alge et al., (2003) found that there were no differences in communication effectiveness for groups that had prior history. This highlights a big gap in the study of teams, in particular VT which is that teams should be evaluated throughout their life cycle rather than simply when there is a need (e.g., a crisis like the pandemic or financial purposes).

2.3.2.3. Communication

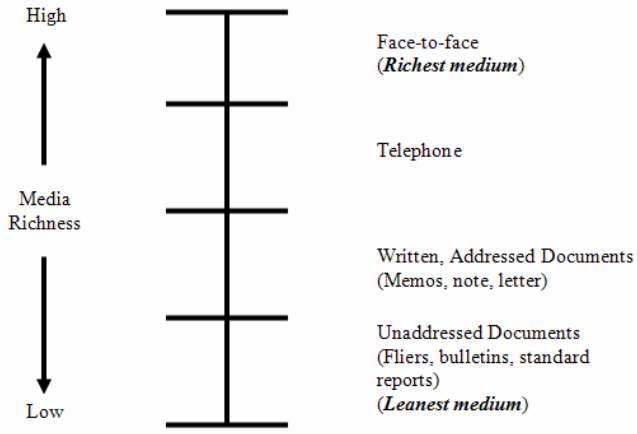
As social beings, effective communication (verbal and non-verbal) is key for many reasons (e.g., gestures and tone of voice can help convey emotions) and so, when communication is not effective or interrupted through virtual barriers (e.g., IT issues), it can have a negative impact on team processes and outputs.

Whilst much research has discussed the negative impacts of virtual communication on team processes and outcomes, their findings cannot always be generalised due to sampling

limitations. Additionally, their reliability might be questioned because of the lack of description of the types of communication in the sample population. For example, many studies have failed to specify how much of the virtual working might have been real-time (audio/ video), audio only (e.g., telephone) or text only (e.g., e-mails). This would be important to examine as previous research has found that text only (low media richness; Figure 6) communication may lead to members liking each other less, difficulties establishing trust and experiencing more misunderstandings (Daft, Lengel and Trevino, 1987). Furthermore, identifying these factors could support making comparisons between virtual team studies rather than focusing on comparing traditional and virtual teams.

Figure 6

Hierarchy of Media Richness by Daft, Lengel and Trevino, 1987.



In relation to the method of virtual communication, consensus is that the biggest challenges VTs face is the limited social interactions and technical issues (Kimble, 2011, Pangil and Chan, 2013). In relation to social interactions, in addition to what has already been discussed, another challenge is related to the loss of social cues which can impact cohesion. Driskell, Radtke and Salas (2003) discussed that, social cues (e.g., eye contact, nods,

gestures, facial, tone of voice and body language) provide information about the person we are interacting with. Such cues can help us identify whether someone is interested in our comments, can be trusted, how they feel about us but also whether they are understanding us as we intended for them to which can contribute to building trust and cohesion.

Another challenge with exploring impact of communication is that each VT will also have different technologies. In terms of the tools and/or application use, technical challenges such as unreliable systems and slow computers are reported by all the SLR papers. This raises the importance of what is currently missing in the literature as well as the need to consider the year a VT study may have been conducted. This is because, with the constant development of virtual communication tools, challenges identified years ago may not be relevant today.

During the pandemic there appears to have been vast and fast IT developments therefore it would be important to identify if there are specific technologies that are preferred by community mental health teams and their effectiveness for communication. Exploring impact of technological tools maybe more relevant to the NHS as Kimble (2011) highlighted findings by Breu and Hemingway (2004) which reported that in public sectors, IT can be more unreliable and inadequate which raises the question of whether the NHS was or is ready on a technological level to support VW in secondary mental health teams.

In relation to recommendations, the SLR always highlighted the need for up-to-date technology for communication which can enhance initiation, building and development of cohesion, trust, and effectiveness (Ehsan, Mirza and Ahmad, 2008; Pangil and Chan, 2013). Better technology and more frequent opportunities to meet virtually could also provide prospects for knowledge sharing, a key benefit of MDTs for better patient care. Although, Kimble (2011) highlighted that up-to-date technology is not always the solution for everyone. They reported that some team members may prefer traditional ways of virtual communication

(telephoning and e-mailing one another). With this in mind, and knowledge that community mental health teams can vary greatly, person centred, and team-centred studies and interventions would be recommended.

2.3.2.4. Other Process Factors

Although not a focus within this study, it is important to remember that other factors may contribute to team experiences and a teams' effectiveness. For example, the SLR search found several studies focusing on leadership in VTs. Leadership has been a big driving factor for teams and research in many disciplines (e.g., psychology, sociology, business, politics; Saafein and Shaykhian, 2013).

Leaders can play a huge role in terms of strengthening or hindering team inputs (e.g., team size, member characteristics), processes (e.g., trust) and so team outputs (e.g., satisfaction). They are also important for implementing and reviewing recommendations. In relation to VTs, one example is regarding transformational leadership approaches which have been found to help team cohesion, performance, and increased satisfaction (Purvanova and Bono, 2009; Garro-Abarca, Palos-Sanchez, and Aguayo-Camacho, 2021).

2.3.3. Output factors

Outputs can include team members satisfaction, client satisfaction, team outcomes, and team effectiveness (objective or subjective). For the purposes of this study, focus was placed on satisfaction and team effectiveness.

2.3.3.1. Satisfaction

In terms of team and job satisfaction, the consensus has been that better team cohesion, trust and communication can lead to better satisfaction. Additionally, another meta-analysis by Gajendran and Harrisons, (2007) found a positive relationship between VW and satisfaction which is supported by other findings (e.g., Breuer, Huffmeier and Hertel's; 2016). Virtual working has also been found to reduce costs of travelling, turnover intent and

need for formal workwear, factors which have previously been linked to work related stress. Therefore, if VW can eliminate some of these stressors, it could help increase satisfaction as well as performance (Gajendran and Harrison, 2007). Unfortunately, none of the identified papers within this SLR focused on satisfaction and discussions were often secondary to the main hypotheses. This further highlights another need in the field of VT research.

2.3.3.2. Effectiveness

As discussed in the previous sections, different team process and output factors are related to team effectiveness. While some findings suggest VW has a negative impact on team effectiveness, others have found that VW could also promote positive impacts on team effectiveness (Ehsan, Mirza, and Ahmed's, 2008).

One of the main challenges faced by researchers examining effectiveness of VTs has been that there is no single, consistent way of examining a team's effectiveness. There are both objective (e.g., number of patients discharged or waiting list length) and subjective (e.g., client or staff feedback) ways of investigating a teams' effectiveness. Therefore, once again, person-centred, and team-centred approaches are recommended. Additionally, as service user feedback could be considered part of the outcome factors, service-centred approaches should also be considered.

The SLR also identified that previous studies have often focused on factors that impact team effectiveness and at times, ignored the non-linear theory within the IPO framework. Therefore, further research must consider focusing on team effectiveness as a factor on its own and examine how team effectiveness could impact team inputs, processes and other outputs.

2.4. Critical Evaluation

This chapter highlighted some of the gaps and issues with the current literature. In relation to methodological and theoretical issues, the field continues to compare VTs with

traditional face-to-face teams. Additionally, initial SLR search strategies identified that in fact, there are many studies that consist of VT members as part of their sample. However, this has previously, largely been based on global virtual teams, a sample of students or focused on impact of VW on patients. This is perhaps because until recently, virtual ways of working were mainly for the purpose of connecting with sister companies around the globe and fewer industries used virtual ways of working. As a result, this limits generalisability of previous findings to teams that became virtual because of a crisis (e.g., a pandemic).

Additionally, another missing information from the literature is, exactly what constitutes a team as a VT. For example, e-mails and telephone calls which have been used for many years are arguably a tool for virtual working. Telephone communication and email use has been a part of many teams even prior to the pandemic specially when, community mental health teams where team members, even prior to the pandemic worked in different community settings (e.g., service users' home, GP surgeries, in their car, or at home) across counties. Therefore, with more industries now working virtually (full time or partially) focus must be shifted towards comparing virtual teams with each other.

In relation to data analysis, as shown in the identified studies from the SLR search, quantitative research designs are the majority in the field. Whilst this approach can bring with it valid and reliable findings, measures have been inconsistent, reducing their validity and reliability. However, what has been consistent is that analysis has mostly focused on correlational analysis. One reason for this could be that it contributes to the non-linear IPO framework which continues to dominate the field of team research.

Furthermore, when using the IPO framework, there appears to have been a focus on team processes and outcomes and so, input factors have largely been neglected despite the agreement that they contribute to the non-linear functioning of teams. Lastly, the framework consists of many factors which can influence a surge of examining multiple factors at once.

Although this can contribute to our understanding of teams, it can limit how comprehensive results for each factor can be. It may also contribute to the already inconsistent (e.g., definitions and measures) and repetitive nature of findings.

One solution to this could be that initially, focus should be placed on different factors individually before evaluating their relationship with other factors in the IPO framework. For example, Pangil and Chan (2013) focused mainly on trust and were able to identify that that whilst there was a correlation between trust and team effectiveness, different types of trust had different effects on the virtual teams' effectiveness. For example, whilst cognitive-based trust was found to have a direct impact on VT effectiveness, personality and institutional-based trust had both direct and indirect effects on the VTs' effectiveness. As a result of this focus, they were able to recommend the need for nurturing specific interventions of different types of trust rather than a broad recommendation that trust requires attention in teams.

2.5. Overall Findings of the Systematic Literature Review

Teams are already complex without the added challenges VW could bring. As a result of the many variables in teams, there are many inconsistencies in previous findings. However, these inconsistencies can be used to direct further studies. In relation to clinical implications, majority of studies from this SLR highlight communication challenges in VTs as a barrier to team processes and outcomes. Therefore, a re-occurring recommendation has been that even when virtual, some face-to-face opportunities will be beneficial which could be created through hybrid ways of working (Pangil and Chan, 2013; Ehsan, Mirza, Ahmad, 2008).

Chapter 3. Methodology

3.1. Chapter Overview

This chapter presents information regarding the design of the study, participant criteria, recruitment, and sample size calculations. Furthermore, stages of survey development including measures are presented before ethical concerns are considered.

3.2. Design

This study used an online, quantitative survey design to explore the experiences of MDT members working virtually during the pandemic. Due to the pandemic, for health and safety purposes, an online approach was deemed to be the safest and most accessible method of gathering data. This approach can also be less costly and provides wider access to a range of participants.

Unfortunately, this study design comes with barriers. For example, it cannot always identify cause and effect. Arguably, this is also a limitation to the IPO model where research shows non-liner relationships, although, a clear understanding of causality is not known. Additionally, this design does not always obtain wider, descriptive information about social phenomena such as working as a team during a pandemic.

The possibility of holding online focus groups was considered however, concerns were raised about the reliance on technology in particular at the start of the pandemic when VW was still very new for many. Additionally, the information discussed in the introduction highlighted communication barriers with virtual meetings which could have had a negative impact on the data. Individual online qualitative interviews were also considered however, it was agreed that this would limit the number of participants due to the commitments required from participants particularly during a time of significant pressure within the NHS, over and beyond the previous service-related pressures (e.g., increase in referrals, financial cuts and service redesigns).

3.3. Participants

To be eligible for the study, participants had to be over the age of 18 years and a professional or non-professional member of an MDT in a community secondary mental health service (e.g., CMHT, CAMHS). Participants were also required to have worked part time or full time within the same MDT prior and during the pandemic. Specific number of years within the team was not part of the eligibility criteria although, the information was recorded for analysis and to expand information about the sample characteristics.

Despite some previous researchers excluding team members considered as "non-professional" (e.g., administrative staff, students, or trainees), this study did not exclude these members as they are considered part of the MDT who contribute to a team's effectiveness. However, team members who worked on an ad hoc basis were excluded as their experiences with perceived team cohesion, trust, communication, satisfaction, and effectiveness are likely to be different due to possible lack of or inconsistent contact with team members. For example, this way of working could produce less opportunities for building connections.

Additionally, MDT members working within inpatient, crisis and/ or forensic services were also excluded from the study as their way of working was not expected to have changed much during the pandemic. This is because they would have been required to continue working face-to-face with many team members and clients. Furthermore, we acknowledge that there are other mental health MDTs such as those within social services. However, for the purposes of homogeneity, the current study was limited to secondary mental health teams within NHS provider organisations.

3.4. Recruitment

Recruitment for this study took place over a three-month period (March – May 2021). This period was almost one year and three lockdowns since the UK government urged people to stop non-essential contact and travel in March 2020. Between March - May 2021, "stay at

home" rules gradually lifted, and some employers returned to face-to-face working although the NHS continued with much of its virtual ways of working to protect its service users, employers, and the services.

Different social media platforms (e.g., LinkedIn, Facebook, Instagram, and Twitter) were used to share the participation advertisement (appendix C). Hashtags (#) were also used to promote advertisement and they included #secondarymentalhealth, #virtualworking, #remoteworking, #psychology, #psychiatry, #nursing, #teamworking, #occupationaltherapy. Social media groups for psychologists, mental health nursing and occupational therapy groups/ forums were also contacted separately to increase advertisement. Additionally, a snowballing methodology was utilised, as participants were asked to share the link of the survey with friends and colleagues who may have been interested and eligible to take part.

3.5. Sample Size Power Calculation

This study aimed to recruit between 38 – 57 participants based on statistical power analysis using G*Power 3.1.9.4 on a Windows 10 computer in December 2020 (Table 4). This calculation showed that a sample size of 57 would be needed to detect a medium effect size correlation of $r = 0.3$ with a power of 0.9 and an alpha level of 0.05.

Table 4

*G*Power Sample Size Calculations*

Power	Effect Size	Sample Size
0.7	0.3	38
0.8	0.3	45
0.9	0.3	57

3.6. Survey Development and Measures

Appendices D - N represents the final survey, which was powered by Qualtrics (online survey company). The survey was piloted informally with four peers (two within the field of clinical psychology and two within the field of business) and their feedback was used

to make recommended adaptations, which were mainly regarding the wording of questions and ease of survey navigation. Their survey responses were not included in the analysis.

The survey began with participation eligibility checks (Appendix D). Once eligible, participants were presented with information about the study before consenting to take part. Participants were then required to complete six further sections before ending the survey with a debrief form. Table 5 presents a brief overview of this structure. An overview of the areas explored in relation the IPO framework is also presented in Figure 7.

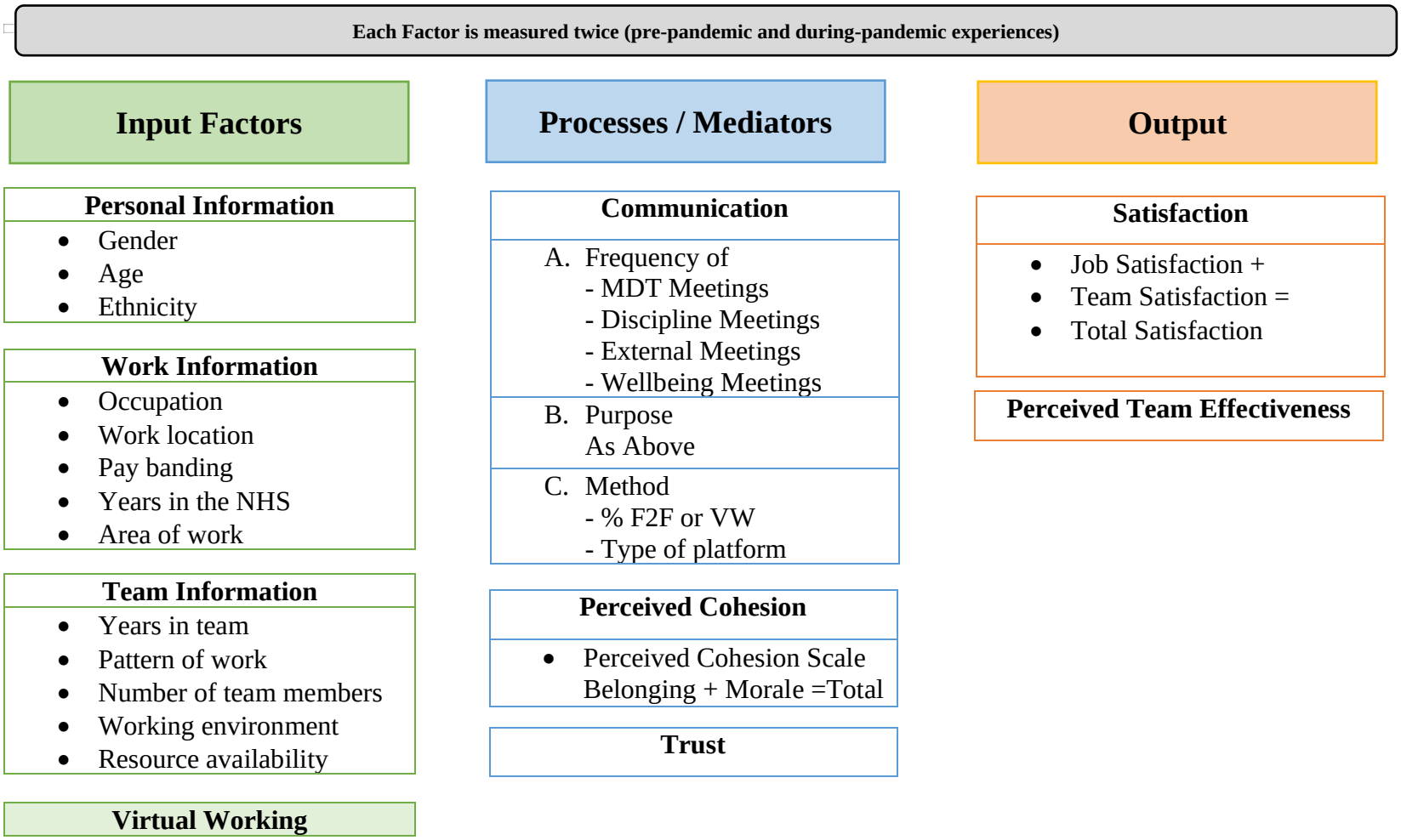
Table 5

Survey Structure at a Glance

Section	Title	Purpose
Pre participation	**Eligibility**	Narrowing sample
Pre- survey entrance	**Information sheet**	Highlight rights and gains informed consent.
Section 1	**"About you"**	Personal and Work Demographics
Section 2	**"About your job"**	Job and Team Information
Section 3	**"Virtual Working"**	Experiences of Virtual Working
Section 4	**"Experiences with your team"**	Measuring Perceived Team Cohesion
Section 5	**"Experiences with your team continued"**	Measuring Team Trust
Section 6	**"How well your team works"**	Measuring Perceived Team Effectiveness
Section 7	**Satisfaction and Reflections on VW**	Measuring satisfaction and exploring experiences of VW during the pandemic.
Ending	**Debrief form**	Providing further information about the study and possible support services should this be required

Figure 7

Survey Content on an IPO Framework



3.6.1. Survey introduction

At the beginning, the information sheet (Appendix E) was used to highlight that participation would be voluntary and anonymous as the study does not require any identifiable information about participants or their teams. However, if participants requested further information about the study and its outcomes, they were invited to provide their e-mail address. This information would only be accessible to the research team and used only once the research ends. The information section also informed participants that they could withdraw during and up to two weeks after completing the survey, before analysis was due to begin. To facilitate this, participants were asked to create a pseudonym to allow retrieval of their information for elimination. Finally, this section required participants to provide informed consent (Appendix F) through a signature in the form of ticking a box, confirming their agreement to take part.

3.6.2. Main Body of Survey

Section one of the survey (Appendix G) consisted of nine questions about the participants personal demographic (e.g., gender, age, ethnicity, occupation). This section was created by the researcher, initiated by formats used within the NHS Staff Survey (2020) and the England and Wales census (Office of National Statistics, 2020). Section two (Appendix H) consisted of 14 questions about the participants team and their way of working pre and during the pandemic. For example, the percentage of time spent working virtually, a question previously used in a variety of modified narrations by other researchers (e.g., Spilker, 2014). Other questions in this section were also initiated by formats used within the NHS Staff Survey (2020) and further inspired by Lurey and Raisinghani (2001).

The third section (Appendix I) included five questions exploring participants' experiences of VW. For example, satisfaction with virtual communication platforms and frequency of their use prior and during the pandemic. These questions were designed by the

researcher, prompted by discussions with colleagues about challenges regarding access and knowledge of IT resources. Specific to communication, no standardised measures were used to break down the concept of communication pre and during the pandemic however, this was explored using a variety of questions identifying frequency, purpose, and method of communication. For example, participants were asked, "prior to the pandemic, how often did you meet with your team for multidisciplinary team meetings to conduct routine business". This measured frequency and purpose of communication. Example of a question measuring frequency and method of communication included "During the pandemic, in a working week, what percentage of your work was conducted face-to-face and what percentage of your work was conducted virtually?".

3.6.2.1. Cohesion Measure

Section four of the survey (Appendix J) measured perceived team cohesion using the Bollen and Hoyle's (1990) Perceived Cohesion Scale (PCS). This measure is based on the cohesion definition, "an individual's sense of belonging to a particular group and his or her feelings of morale associated with membership in the group" (Bollen and Hoyle, 1990; p.482). The PCS consisting of six questions looks at an overall perceived cohesion which is a combination of two dimensions (belonging and morale), each of which is measured by three questions. For the purposes of this study, each question was repeated twice to assess perceived team cohesion pre and during the pandemic.

The PCS has been adapted and used by other researchers (Chin et al., 1999; Macovei, 2018) including a VT study (Salisbury et al., 2006). The measure previously used a 10-point Likert scale where 0 indicated "strongly disagree" and 10 indicated "strongly agree". This Likert scale was later reduced to seven by Chin et al., (1999). For the purpose of this study, a 5-point Likert scale was used, similar to the other measures in this study to allow for flow

and consistency. Additionally, as encouraged by the authors of the PCS, wordings were also adapted to fit this study. For example, the term group was changed to "team".

Higher scores in the PCS would indicate higher levels of perceived cohesion and higher scores in each dimension would indicate higher levels of perceived belonging and/ or morale. The measure has previously shown statistically significant X^2 and goodness of fit. For example, Chin et al., (1999), found a significant correlation (r = .92) between the two constructs and suggested that the overall fit of the model to be strong. Similarly, Salisbury et al., (2006), amongst their virtual team sample, reported a strong overall fit of the model and validated the measure for use in a virtual team context.

This measure has other strengths including the number of questions. As the measure consists of few questions, it does not require a large survey space or participant time. There are other perceived cohesion measures including Seashore (1954) which consists of only three questions, however, to our knowledge their measure of cohesion has not previously been used for a VT study. Furthermore, Seashore's (1954) cohesion measure has been found to be more geared for males which would not fit with our targeted population where 77% of the NHS workforce are women (NHS Employers, 2019).

3.6.2.2. Trust Measure

Section five of the survey (Appendix K) aimed to measure team trust using Jarvenpaa et al.'s (1998) trustworthiness measure adapted from Pearce et al., (1992) for global VTs. Jarvenpaa et al's., measure consisted of eight questions, which included "overall, the people in my group are very trustworthy" with responses being given on a five-point Likert scale. Unfortunately, due to researcher error, four questions were not transferred onto Qualtrics, and one question was repeated twice therefore, responses for this section cannot be used as part of a valid and reliable measure. Although, the results could and will still be used for exploratory purposes.

It must be noted that further investigation also identified that this measure had not previously been found to be definitive by previous researchers. Additionally, the measure consists of other limitations such as the large number of questions in particular when used in a survey already consisting of other measures. As a result, future studies should consider alternative measures. When doing so, it must be noted that due to varied definitions of trust and trustworthiness, to match the narratives of the literature discussed in the literature review, a measure of trust rather than trustworthiness should be considered. Although, Jarvenpaa et al (1998) did not find a significant difference between a trustworthiness and trust measure. An example of an alternative measure can be an 11-item measure by McAlliser, (1995).

McAllister's (1995) measure consists of statements examining cognition-based trust and affect-based trust. This has also been used by researchers exploring VTs (Coovert, Miller and Bennett (2017). Pearce et al., (1992), eight-itemed measure of trustworthiness has also been modified by Tractinsky, Jarvenpaa, Vitale and Saarinen (1999) looking at antecedents of trust in global VTs which have been found to be more valid and reliable compared to the measure used within this study.

3.6.2.3. Team Effectiveness Measure

For perceived team effectiveness, in section six (Appendix L), Jung and Sosik's (2002) five itemed perceived group effectiveness measure was used. Jung and Sosik (2002) had created the questionnaire specific for their study, which also looked at inputs, processes, and outputs. They criticised their own measure for its reliance on perceptions which has been found to sometimes be subject to socially desirable responses (Paulhus, 1988). Nonetheless, despite the limitations of the measure chosen, it was felt most suitable for this study in particular as the study's cohesion measure was also based on perceptions of participants.

Jung and Sosik (2002) found that their measure was a good fit for their study, which like this study, focused on how to help teams be more effective. However, it must be noted

that this measure requires further replication and validation in particular as initial data is based on four Korean companies and the majority of their participants were male. Nonetheless, it can be argued that the questions used within this measure are open statements which can be related to any team or group regardless of location or gender.

For the purposes of this survey, each question was repeated twice to measure pre and during pandemic perceptions of team effectiveness. Additionally, adaptations were made to the wording of questions to fit the overall terminology of this study. For example, "my group is effective in getting things done." was changed to "my team is effective in getting things done". All five items were measured on a five-point Likert scale where a higher total score would indicate higher perceived team effectiveness.

3.6.2.4. Satisfaction measure

In section seven (Appendix M), to measure satisfaction, four quantitative questions with a 10-point response Likert scale were used, designed by the researchers. Two questions were used to measure job satisfaction pre-pandemic and during the pandemic and two questions were used to measure team satisfaction pre-pandemic and during the pandemic. Questions included "Before the pandemic, how satisfied were you with your team?". While there are many work-related satisfaction measures and questionnaires, questions with a rating scale were deemed appropriate, similar to the annual NHS staff survey. This decision was also important due to the already long length of this survey.

Additionally, in section seven, to gain further information about experiences of VW (e.g., challenges, benefits), three open questions were used, inspired by Lurey and Raisinghani's (2001) survey. Finally, one open response box was presented to participants asking them to "describe in [their] own words, anything else [they felt] would be helpful for us to know in terms of helping teams function effectively when working virtually".

3.7. End of Survey

The debrief form (Appendix N) was used to express gratitude for participation. It also provided the contact information of the investigators should participants have any questions or concerns. As reflections on team working as well as reflections on difficult times working during the pandemic may have had an impact on some participants, they were provided with further contact details for support. Some suggestions included contacting their trusted work seniors, Occupational Health, or their GP, all of whom can make referrals and advice on relevant services and interventions (e.g., counselling). Additionally, details of NHS approved services were provided (e.g., Every Mind Matters, MIND.org.uk, Mental Health Foundation).

3.8. Ethical Considerations

This study obtained ethics approval from University of Hertfordshire Health and Human Sciences Ethics Committee. A copy of the ethical approval form can be found in Appendix B. As identified by the Health Research Authority website, although this study recruited NHS staff, as the study did not raise material ethical issues it did not require permission from the NHS Research Ethics Committee. Ideally, we would have liked to gain NHS ethical approval to approach services to help expand our sample population however, due to COVID restrictions this was not possible. First, at the time when we were seeking ethical approval, there was a hold on non-essential NHS research due to COVID. Additionally, as we were forced to stop our first project after a few months of work due to COVID, we were restricted with time due to the requirements of the course and were made aware that NHS ethics may require a significant amount of time.

In relation to ethical concerns, potential ethical issues were limited through the anonymous, confidential aspects of this study and participants were also informed about the nature of the study and procedures within the advert, information, consent and debrief pages. In relation to anonymity, participants were not required to provide any personally identifiable

information. However, at the end of the survey, they were given the opportunity to provide their e-mail address if they wished to hear about the outcome of the study. This data and all the survey results were protected through secure storage. Storage included the researchers Qualtrics account, and the secure university or NHS computer accounts of the research team. Finally, participants were also reminded of the right to withdraw without any consequences for them, in accordance with the British Psychological Society Ethical Guidelines (2014, 2021).

Chapter 4. Results

4.1. Chapter Overview

This chapter first provides information about the internal reliability checks prior to the data analysis. Hypotheses are explored using SPSS (version 27) outputs and the researchers content analysis. Results are presented in the form of tables and figures representing outcomes of frequency tables for descriptive statistics, t-tests for pre and during pandemic differences, and multiple correlations for each of the process and output factors in order to examine possible relations.

4.2. Final Dataset Checks

A total of 112 people used the survey link to reach the information sheet. However, 29 were eliminated as they were identified to have been completed by an internet bot. These were identified through the very short duration the survey was completed (e.g., less than one minute) as well as replications in responses. A further 15 participants did not move past the consent form, eight did not complete the survey past the first section and three did not move past the second section. In total, 57 NHS workers from secondary mental health services participated in this study. Based on the power calculation (Table 4), this is in line with the recommended 57 participants based on a power of 0.9 and effect size 0.3. On average, these participants spent 26 minutes on the survey. It must be noted that participants were not required to respond to all questions to move forward in the survey therefore total number of responses in each analysis may vary due to missing responses which will be highlighted in each table.

Responses were first imported from Qualtrics to Excel to ensure there were no errors in the data which also allowed for adaptations for a more clear and accessible data file. For example, Qualtrics used full questions to title columns and due to the large lengths, these were adapted. For example, the title “Prior to the pandemic, how often did you meet with

your team for multidisciplinary team (MDT) meetings to conduct routine business" was shortened to "PP MDT Meetings" where "PP" stood for pre-pandemic or "DP" for during-pandemic. Furthermore, this allowed easier access to open questions which were separated for content analysis.

Internal reliability checks were executed for each questionnaire using Cronbach's alpha (Table 6). Here, as a rule of thumb, values <0.70 were considered poor, 0.70 satisfactory and 0.80 as good. All results were < 0.80 suggesting a good correlation coefficient for all scales.

4.3. Assumptions of Parametric Tests

To support the identification of statistical tests for analysis, data was examined to assess whether they met assumptions of parametric tests. Assumptions of parametric tests can be regarding normality (normally distributed data), linearity (linear relationship in data), homogeneity of variance (variance in each population is equal) and independence (each sample is independent from each other; Field, 2009).

Various methods can be considered for assessment of normality and to our knowledge, there is currently no single standard of this assessment (Kim, 2013). For this study, results of skewness (measure of asymmetry) and kurtosis (measure of peakedness) of distributions were used alongside eyeballing of the shape of distributions using histograms. Skewness values between -1 and +1 and Kurtosis values between -2 and +2 are considered statistical evidence for a normal univariate distribution (George and Mallery, 2010).

Based on this, statistics of the skewness suggested that most of our data to be normally distributed (-1< skewness value <+1). This is with the exception of, the PCS's belonging domain (-1.040), pre-pandemic job satisfaction (-1.183), pre-pandemic team satisfaction (-1.014), during-pandemic team satisfaction (-1.136) and pre-pandemic total satisfaction (-.1.131). However, for all scales, kurtosis assumed a normal distribution (-2 <

Kurtosis value <+2). As a result of these differences, the Shapiro-Wilk test was also used for parametric testing. This test is considered a more formal test of normality (Field, 2018) and is considered by some researchers to provide better power compared to other tests of normality (Thode, 2002). The outcome of the Shapiro-Wilk test also suggests that our scales were highly significant (normally distributed). Job satisfaction was shown to be the least significant however it remains statistically very significant.

Table 6

Inter Reliability and Normality Test Results

	Cronbach's Alpha	**Skewness**	**Kurtosis**	**Shapiro- Wilk Test**	
PP Cohesion	.937	-.511	-.161	.893	*P* = 0.0001
PP Cohesion Belonging	.932	-1.040 (over)	1.688	.820	*P* = 0.0005
PP Cohesion Morale	.888	-.215	-1.050	.884	*P* = 0.00005
DP Cohesion	.914	-.542	-.141	.950	*P* = 0.02
DP Cohesion Belonging	.892	-.533	-.298	.886	*P* = 0.00006
DP Cohesion Morale	.872	-.474	-.304	.929	*P* = 0.002
PP Trust	.946	-.809	-.217	.831	*P* = 0.000001
DP Trust	.930	-.962	.909	.877	*P* = 0.00003
PP Effectiveness	.954	-.553	-.122	.898	*P* = 0.0001
DP Effectiveness	.933	-.679	-.091	.914	*P* = 0.0006
PP Job Satisfaction	N/A	-1.183 (over)	1.643	.892	*P* = 0.0001
DP Job Satisfaction	N/A	-.363	-.098	.951	*P* = 0.02
PP Team Satisfaction *n* = 54	N/A	-1.014 (over)	.898	.882	*P* = 0.00007
DP Team Satisfaction *n* = 54	N/A	-1.136 (over)	1.276	.886	*P* = 0.00009
PP Total Satisfaction	.926	-1.131 (over)	1.272	.896	*P* = 0.0002
DP Total Satisfaction	.852	-.758	.449	.938	*P* = 0.007

* PP = Pere-pandemic,
* DP = During Pandemic

4.4. Main Findings

The following parts present the main findings of each survey section before exploring the findings of pre-pandemic and during-pandemic differences as well as examining the correlations between process and outcome variables.

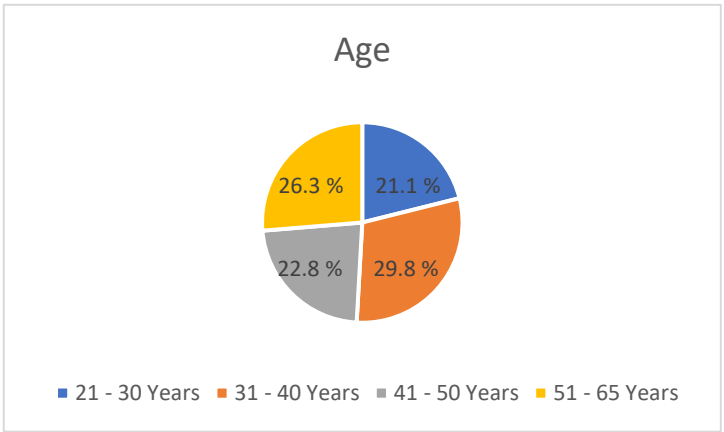
4.4.1. Input Factors – Sample Characteristics

Demographics information about participants (e.g., gender, age), their job (e.g., years in the NHS) and teams (e.g., team size) were obtained for the purposes of sample identification as well as being identified by previous literature as having a potential impact on team outcomes. These included team size (Acai, Sonnadara and O'Neill, 2018), age and gender (Raisiene et al., 2020; Bellotti et al., 2021; Martins, Gilson and Maynard, 2004).

Initially, descriptive statistics were performed to provide an overview of the sample. This process also allowed an opportunity to ensure data was transported correctly to SPSS as recommended by Tabachnik and Didell (2001). Table 7 presents the breakdown of the personal demographic statistics of the 57 participants of whom, 51 (89.5%) were female and 5 (8.8%) were male. Majority of participants (n = 41, 71.9%) identified as white (e.g., British/ Irish). In relation to age, initially, there were concerns that with recruitment only being online, through social media, this could have excluded participants within certain age groups. For example, Zivkovic (2022), reported that in the UK, in 2020, majority of Facebook users were aged between 25 to 34 years, similar to Twitter and LinkedIn. However as shown in Figure 8, overall, 29.8% of participants were aged between 31 – 40 years and other age groups were closely dispersed.

Figure 8

Age of Participants



In relation to work related demographics (Table 8), majority of participants were an allied health professional of whom, 36.8% (*n* = 21) were Clinical Psychologists and overall, 26.3% (*n* = 15) of participants were paid within a band seven. Despite aiming to recruit widely, participants mainly worked within South East England (*n* = 18, 31.6%), East of England/ East Anglia (*n* = 16, 28.1%) or Greater London (*n* = 15, 26.3%). Participants had mostly worked within the NHS for over 15 years (*n* = 18, 31.6%) and had worked in their current team between 1-2 years (*n* = 24, 42.1%) as full time (*n* = 36, 63.2%) or part time (*n* = 21, 36.8%) members of the team.

Participants teams were mainly from child and adolescent mental health services (*n* = 24, 42.1%) or adult services (*n* = 16, 28.1%) where their MDTs often consisted of over 26 members (*n* = 22, 38.6%) and they regularly worked within a shared space (*n* = 42, 73.7%). No missing data was identified when looking at personal or work demographics.

Table 7

Personal Demographics

	Demographics	**Frequency**	**Percentage (%)**
Gender	Female	51	89.5%
	Male	5	8.8%
	Prefer not to say	1	1.8%
	Total	**57**	**100%**
Ethnicity	White	41	71.9
	Any other White	4	7.0%
	Black/ Black British	1	1.8%
	Asian/ Asian British	5	8.8%
	Any other Asian	2	3.5%
	Mixed	2	3.5%
	Other Ethnic Background	2	3.5%
	Total	**57**	**100%**
Age groups (In years)	18 – 20	0	0%
	21 – 30	12	21.1%
	31 – 40	17	29.8%
	41 – 50	13	22.8%
	51 – 65	15	26.3%
	66+	0	0%
	Total	**57**	**100%**

Table 8

Work Related Demographics

	Demographics	Frequency	Percentage (%)
Occupation	Clinical Psychology	21	36.8
	Social Work	1	1.8
	Psychiatry	2	3.5
	Admin & Clerical	5	8.8
	Support to Allied Health Professionals	9	15.8
	Other qualified Allied Health professionals	3	5.3
	Occupational Therapy	8	14
	Art Therapies	3	5.3
	Speech and Language Therapy	1	1.8
	Counselling Psychology	1	1.8
	Mental Health Nursing	1	1.8
	Learning Disabilities Nursing	2	3.5
	Total	**57**	**100**
Location	South East England	18	31.6
	North West England	3	5.3
	South West England	3	5.3
	Greater London	15	26.3
	East of England/ East Anglia	16	28.1
	East Midlands	1	1.8
	West Midlands	1	1.8
	Total	**57**	**100**
Pay Band	N/A (e.g., medical pay)	2	3.6
	4	8	14
	5	9	15.8
	6	7	12.3
	7	15	26.3
	8a	9	15.8
	8b	6	10.5
	8c	1	1.8
	Total	**57**	**100**
Years within NHS	1 - 2	5	8.8
	3 - 5	9	15.8
	6 - 10	12	21.1
	11 - 15	13	22.8
	15 +	18	31.6
	Total	**57**	**100**
Years in team	1 - 2	24	42.1
	3 - 5	15	26.3
	6 - 10	11	19.3
	11 -15	2	3.5
	More than 15 years	5	8.8
	Total	**57**	**100**
Work Pattern	Full Time	36	63.2
	Part Time	21	36.8
	Total	**57**	**100**

4.4.2. Results of Process Factors

Communication, cohesion, and trust were first explored separately using, descriptive statistics, graphs, and content analysis to gain some knowledge of experiences of VW prior and during the pandemic. T-tests were then used to explore if VW during the pandemic had impacted process factors by comparing results prior and during the pandemic.

4.4.2.1. Communication

No specific standardised measures were used to examine communication. However, questions were presented to explore three common areas identified in previous literature which included frequency, purpose, and method of communication.

4.4.2.1.1 Frequency and purpose

Table 9 and Figure 9 show the frequency of participants attending meetings with their MDT, discipline, or other agencies. Prior to the pandemic, 52.6% (n = 30) of participants met with their MDT once a week to conduct routine business. During the pandemic, frequency of MDT meetings for routine business appears to have increased for many with 31.6% (n = 18) meeting more than once a week, more also met daily (n = 9, 15.8%) and 28.1% (n = 16) continued to meet once a week. Prior to the pandemic, most participants engaged in meeting with their own discipline (Figure 10) at least once a month (n = 26, 45.6%). These meetings again, appear to have increased for many during the pandemic with 24.6% (n = 14) now meeting at least once a week with their own discipline. Prior to the pandemic, 20 (31.1%) participants attended meetings not just for their own local team (Figure 11), at least, once a month. This seems to have also increased for some during the pandemic although the change is much smaller with majority continuing to meet less than once a week (n = 13, 22.8%) or once a month (n = 12, 21.1%).

Table 9

Frequency and Purpose of Meetings

		N/A	Daily	Once a week	More than once a week	Less than once a week	Once a month	More than once a month
MDT meetings	PP	2	3	30	9	3	7	9
		3.5%	5.3%	52.6%	15.8%	5.3%	12.3%	15..8%
	DP	1	9	16	18	4	3	6
		1.8%	15.8%	28.1%	31.6%	7%	5.3%	10.5%
Discipline only	PP	4	0	11	3	10	26	3
		7%	0%	19.3%	5.3%	17.5%	45.6%	5.3%
	DP	4	0	14	9	11	12	7
		7%	0%	24.6%	15.8%	19.3%	21.1%	12.3%
Meeting with outside agencies	PP	5	2	3	6	13	20	8
		8.8%	3.5%	5.3%	10.5%	22.8%	31.1%	14%
	DP	7	4	2	10	13	12	9
		12.3%	7%	3.5%	17.5%	22.8%	21.1%	15.8%
Wellbeing	PP	8	2	4	3	30	7	3
		14%	3.5%	7%	5.3%	52.6%	12.3%	5.3%
	DP	9	1	13	5	15	12	5
		15.8%	1.8%	22.8%	8.8%	26.3%	21.1%	8.8%

Note:
* PP = Pre-pandemic
* DP = During-pandemic

Figure 9

Visual Representation of MDT Meeting Frequency

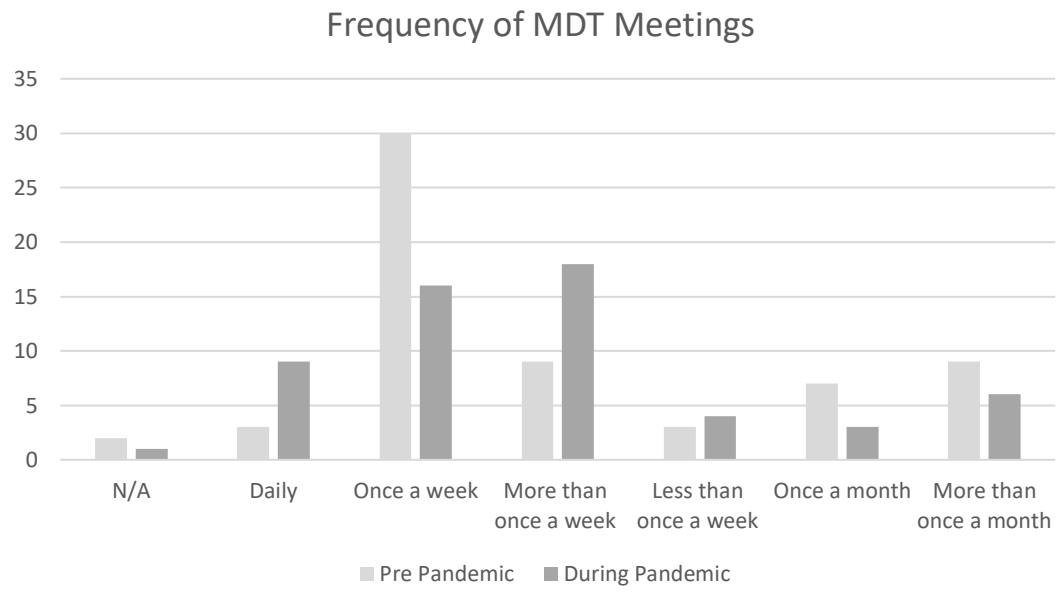


Figure 10

Visual Representation of Frequency of Meetings with Own Disciplines

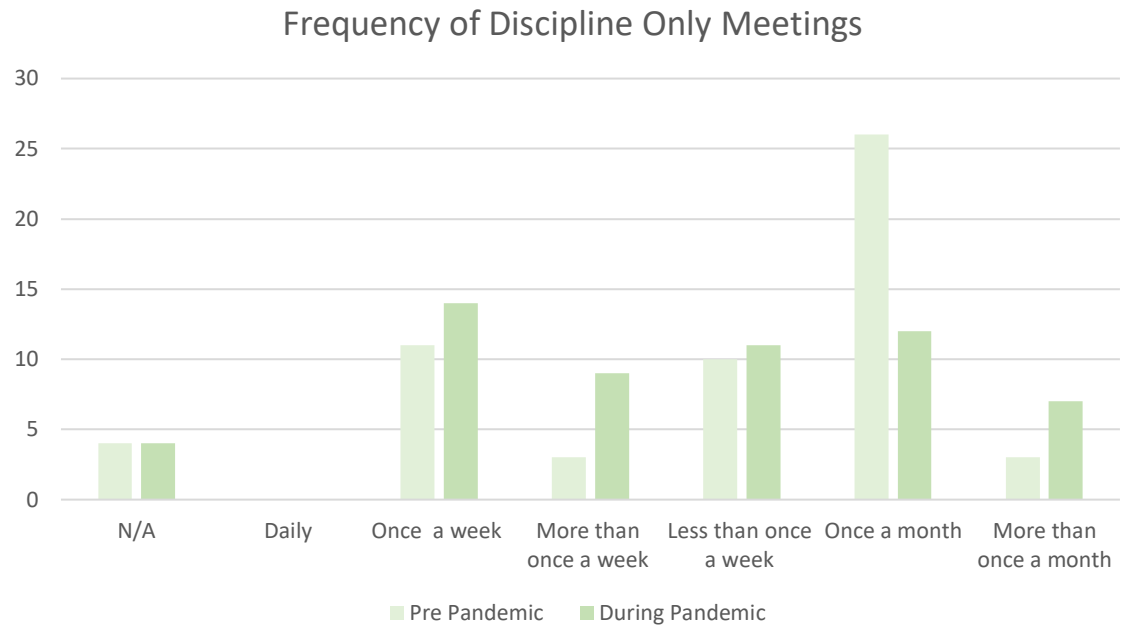
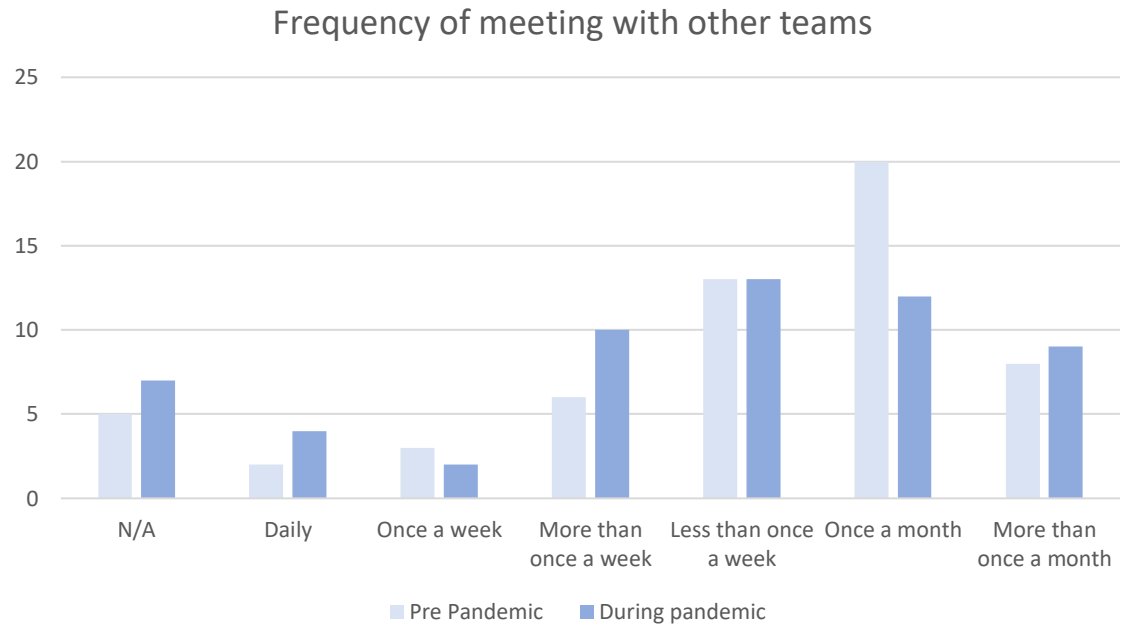


Figure 11

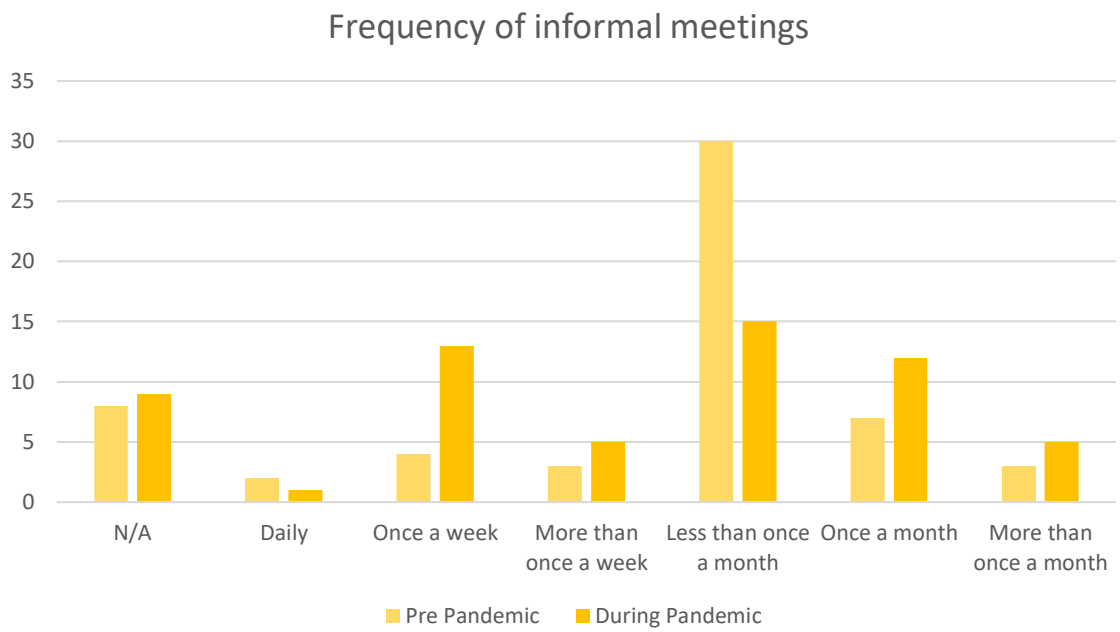
Visual Representation of Frequency of Meetings With Other Teams



In relation to meeting for wellbeing, team building or informal, non-business related social activities (Table 9, Figure 12), prior to the pandemic, majority of participants met less than once a month (*n* = 30, 52.6%). During the pandemic this increased for many to weekly (*n* = 13, 22.8%) or monthly meetings (*n* = 12, 21.1%).

Figure 12

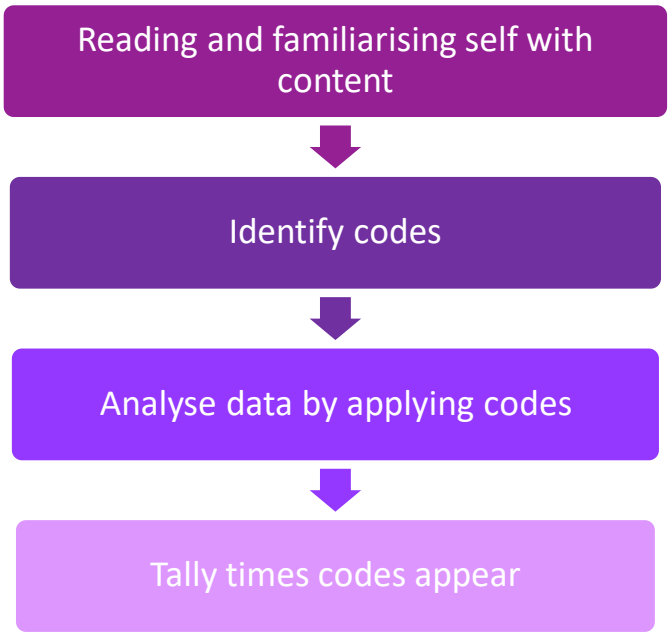
Visual Representation of Frequency of Informal Meetings (E.g., Wellbeing Activities)



Additionally, thirty-five participants provided qualitative feedback regarding the types of wellbeing, team building or informal, non-business related social activities their team engaged in prior to the pandemic and 37 provided feedback regarding the type of wellbeing, team building or informal, non-business related social activities their team engaged in during the pandemic. Their responses were analysed using content analysis which allows a summary of findings in a systematic, quantitative way to draw conclusions. Figure 13 highlights the steps of content analysis.

Figure 13

Steps of Content Analysis



Outcome of the content analysis was tallied and categorised which is presented in Table 10. Overall, the narrative of participants suggests that for them, some wellbeing activities (e.g., social gatherings and mindfulness) continued online during the pandemic. During the pandemic, there seems to have also been new activities introduced for example, six participants highlighted reflective groups as a wellbeing activity during the pandemic. Unfortunately, a common theme identified that whilst some wellbeing activities were introduced or continued during the pandemic, over time, these declined.

"…as the year has gone on the drop in sessions have stopped and the discipline sessions are weekly and more about business"

"Friday Face to Face virtual gatherings on a Friday afternoon (only for the first few months of the first lockdown)."

Table 10

Wellbeing, Team Building or Informal, Non-business Social Activities *Pre and During the Pandemic*

Pre-pandemic wellbeing activities		During-pandemic wellbeing activities	
Away days (including team building day 1)	12	Away day (virtually)	3
Social events – Farewell	7	Social events - Farewells	4
Other social events (e.g., Pub quiz, Christmas)	17	Other social events (e.g., virtual quiz, drinks)	6
Meals (e.g., lunch)	16	Meals (e.g., Virtual lunch)	4
Informal catch ups	5	Chats (e.g., "tea and chat", drop-ins)	21
Walks	3	walking with companion	4
Mindfulness	2	Mindfulness	4
Other activities (e.g., Garden activities, arts, and crafts, yoga)	3	Other activities (e.g., yoga, virtual choir, Netflix club,	3
Training opportunities	1	Supervision	4
		Reflective Groups (e.g., reflections on impact of COVID)	6
		None	3

4.4.2.1.2. Method of communication

As shown in Table 11, prior to the pandemic, majority of participants (*n* = 48, 84.2%) spent over 80% of their week, working face-to-face and from 55 participants who provided an answer, 84.2% (*n* = 48) spent less than 20% of their week working virtually which could include use of e-mails or telephone calls for communication. During the pandemic, as expected, 35 (61.4%) of 54 participants who provided a response spent between 0-20% of their working week working face-to-face and from 56 participants, 73.7% (*n* = 42) spent over 80% of their week working virtually.

Table 11

Amount of Face-to-Face and Virtual Working Pre and During the Pandemic

		80% +	60 – 80%	40 – 60%	20 – 40%	0 – 20%	Total
Face-to-face		48	2	2	3	2	**57**
	PP	84.2%	3.5%	3.5%	5.3%	3.5%	
		1	0	5	13	35	**54**
	DP	1.8%	0%	8.8%	22.8%	61.4%	
VW		0	0	2	5	48	**55**
	PP	0%	0%	3.5%	8.8%	84.2%	
		42	7	4	3	0	**56**
	DP	73.7%	12.3%	7%	5.3%	0%	

Note:
* PP = Pre-Pandemic
* DP = During-Pandemic

In relation to tools for communication, Table 12 presents the platforms used by participants for VW as well as their satisfaction ratings of these platforms. Of the 57 participants who reported to have used the telephone as part of their VW experience, on a scale of 10 (where 10 is very satisfied), majority rated their experience as 5 and above (Figure 14). Of those, 12, (21.1%) gave a rating of 10. This would suggest that using the telephone as part of the VW experience was preferable for many of our participants.

In relation to the use of video call platforms, majority (55) reported to have used Microsoft Teams and most provided a satisfactory rating of six (n = 13, 23.6%), or above. Webex was the least used platform with the least satisfaction rating (n = 2, 33.3%). Participants also reported to have used Attendanywhere (n = 11), AccuRx (n = 2) and BRIO (n = 1). Satisfactory rating for these platforms were not disclosed.

In relation to use of instant massaging platforms, 14 participants used Whatsapp and majority (28.6%) provided a satisfactory rating of five whilst three provided a rating of nine and two, a rating of 10. Only three participants had used Pando and all ratings were below four suggesting the use of this platform was not very satisfactory. All participants used e-mailing services and majority rated their satisfaction above five with 14 giving a rating of 8,

(24.6%) and 12 (21.1%), a rating of 10 suggesting the use of e-mails to be both important and satisfactory for many.

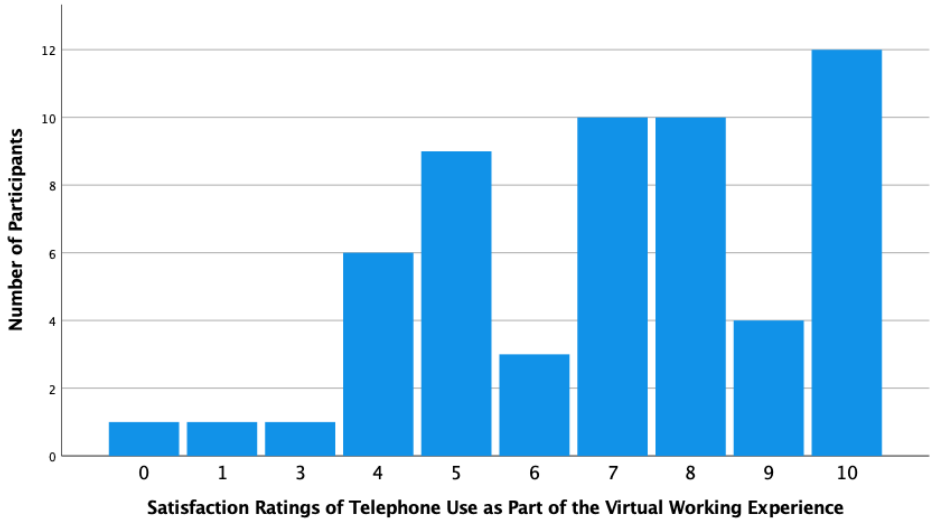
Table 12

Platforms Used for Virtual Working and Satisfaction Ratings for Each Platform

		0	1	2	3	4	5	6	7	8	9	10	Total
Telephone	**N**	1	1	0	1	6	9	3	10	10	4	12	**57**
	%	1.8	1.8	0	1.8	10.5	15.8	5.3	17.5	17.5	7	21.1	
Zoom	**N**	2	1	2	1	1	3	6	9	13	6	7	**51**
	%	3.9	2	3.9	2	2	5.9	11.8	17.6	25.5	11.8	13.7	
Microsoft Teams	**N**	0	0	2	4	3	1	13	10	9	7	6	**55**
	%	0	0	3.6	7.3	5.5	1.8	23.6	18.2	16.4	12.7	10.9	
Webex	**N**	0	2	0	1	1	0	0	1	1	0	0	**6**
	%	0	33.3	0	16.7	16.7	0	0	16.7	16.7	0	0	
Whatsapp	**N**	0	0	0	1	1	4	1	1	1	3	2	**14**
	%	0	0	0	7.1	7.1	28.6	7.1	7.1	7.1	21.4	14.3	
Pando	**N**	0	0	2	0	1	0	0	0	0	0	0	**3**
	%	0	0	66.7	0	33.3	0	0	0	0	0	0	
E-mail	**N**	1	0	1	0	3	8	1	10	14	7	12	**57**
	%	1.8	0	1.8	0	5.3	14	1.8	17.5	24.6	12.3	21.1	

Figure 14

Satisfactory Rating of Telephone Use as Part of Virtual Working Experience



4.4.2.1.3. Support and access for communication

As shown in table 13, from 56 participants, majority (*n* = 19, 33.9%) agreed with the statement that "[they] felt that [their] service provided [them] with enough support on how to use different virtual platforms for communication". However, it must be noted that responses to this question were dispersed with 11 (19.6%) disagreeing with the statement and 12 (21.4%) reporting neutral feelings about the statement, as shown in Figure 15.

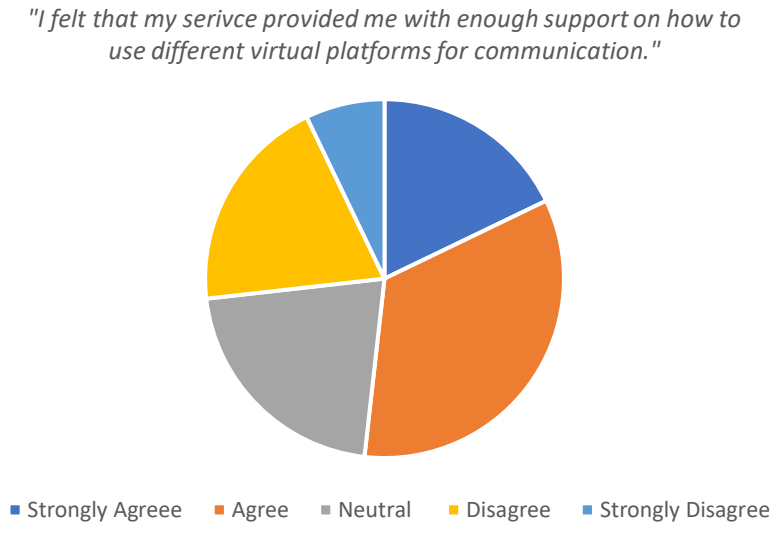
Table 13

Access to Support and Relevant Equipment

Statement		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
I felt that my service provided me with enough support on how to use different virtual platforms for communication.	**N**	10	19	12	11	4	**56**
	%	17.9	33.9	21.4	19.6	7.1	
Before the pandemic, I had access to all the equipment I needed to perform my work.	**N**	15	22	12	5	3	**57**
	%	26.3	38.6	21.1	8.8	5.3	
During the pandemic, I had access to all the equipment I needed to perform my work.	**N**	14	21	7	12	3	**57**
	%	24.6	36.8	12.3	21.1	5.3	

Figure 15

Pie Chart Representing Whether Services Provided Enough Support to Work Virtually



Majority of participants (*n* = 22, 38.6%) also reported that "before the pandemic, [they] had access to all the equipment [they] needed to perform [their] work". Majority (*n* = 21, 36.8%) also agreed that "during the pandemic, [they] had access to all the equipment [they] needed to perform [their] work" (Table 13).

4.4.2.2. Cohesion

Perceived team cohesion was measured using the PCS by (Bollen and Hoyle, 1990) where higher scores indicate better, higher perceived team cohesion. To explore whether there was a difference in total perceived cohesion, prior and during the pandemic, a paired-samples t-test was used (Table 14). This parametric test was chosen based on the normal distribution of our sample. Results indicated that perceived cohesion had significantly decreased from pre-pandemic, (*M* = 25.30, *SE = .552)* to during the pandemic (*M* = 24.07, *SE* = .587), *t* (56) = 2.133, *p <.05 at a* 95% confidence interval for the mean difference. In relation to the two domains, there was also a significant decrease in perceived belonging from prior to the pandemic (*M* = 12.93, *SE* = .285) to during the pandemic (*M*= 12.28, *SE* = .297), *t*(56) = 2.157, *p <.05). Regarding* morale however, whilst there was a decrease from pre-pandemic (M = 12.37, SE = .297), to during the pandemic (M = 11.79, SE = .333), *t*(56) = 1.895, *p* >.05) this was borderline significant at *p* = 0.63). Therefore, we reject the no-difference assumption for overall cohesion and both its domains.

4.4.2.3. Trust

Team trust would have been measured using Jarvenpaa et al.'s (1998) trustworthiness measure however, due to researcher error this was not used. Responses from the four questions that were still provided however, were used to explore some information about team trust prior and during the pandemic. Similar to the full measure, assumption was placed on higher scores representing higher trust. To explore whether there was a difference in total trust, prior and during the pandemic, a paired-samples t-test was used (Table 14). Results

indicated that level of trust had significantly decreased from pre-pandemic (M = 17.54, SE = .351) to during the pandemic (M = 17.04, SE = .392), *t* (56) = 2.021, *p <.05) at a* 95% confidence interval for the mean difference. Therefore, we reject the no-difference assumption.

Table 14

Paired Samples T-Test Results for Pre and During pandemic Differences

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	PP Cohesion - DP Cohesion	1.228	4.347	.576	.075	2.381	2.133	56	.037
Pair 2	PP Belonging - DP Belonging	.649	2.272	.301	.046	1.252	2.157	56	.035
Pair 3	PP Moral - DP Moral	.579	2.306	.305	-.033	1.191	1.895	56	.063
Pair 4	PP Trust - DP Trust	.509	1.900	.252	.005	1.013	2.021	56	.048
Pair 5	PP Effectiveness - DP Effectiveness	.754	3.690	.489	-.225	1.734	1.543	56	.128
Pair 6	PP Team Satisfaction - DP Team satisfaction	.259	1.639	.223	-.188	.707	1.162	53	.250
Pair 7	BP Job Satisfaction - DP Job Satisfaction	.704	1.818	.247	.207	1.200	2.844	53	.006
Pair 8	PP Satisfaction - DP Satisfaction	.963	2.997	.408	.145	1.781	2.361	53	.022

4.4.3. Results of Outcome Factors

Outcomes, sometimes referred to as outputs relate to the consequences of a teams' activities and actions which can also be seen as the teams' accomplishments. Factors such as team effectiveness, team performance, team member satisfaction, organisational satisfaction, clinical outcomes, and service user satisfaction can be used to assess a teams' outcomes.

4.4.3.1. Team effectiveness

Team effectiveness was measured using Jung and Sosik's (2002) perceived effectiveness measure. For this measure, higher scores suggest better perceived team effectiveness. Results of a t-test (Table 14) measuring pre and during pandemic differences indicated that level of perceived team effectiveness had decreased from pre-pandemic (M = 20.56, SE = .496) to during the pandemic (M = 19.81, SE = .550) however, this decrease was not significant (*t* (56) = 1.543, *p >.05)* with *p = .128*.

4.4.3.2. Satisfaction

In relation to team satisfaction, 54 participants provided feedback regarding team and job satisfaction prior and during the pandemic (Table 15). When asked how satisfied they were with their team prior to the pandemic, majority of participants, on a scale of 10 (10 = very satisfied) rated their satisfaction with their team a 7 (n = 10, 17.5%) and above with 15 (26.3%) giving team satisfaction a rating of 8 and 13 (22.8%) a rating of 10. During the pandemic, team satisfaction appears to have increased for many with 21.1% (n = 12) giving a rating of 10 and 19.3% (n = 11) rating their team satisfaction as an 8.

In relation to job satisfaction, when asked how satisfied participants were with their job, prior to the pandemic (Table 15), majority would have rated their satisfaction above a 6 (10 = very satisfied) with 22.8% (n = 13) giving a rating of 8. During the pandemic, job satisfaction appears to have reduced with majority 19.3% (n = 11) giving a rating of 5.

For the purposes of analysis, job and team satisfaction ratings of each participant was combined to provide an overall satisfaction rating. A paired samples t-test was used to assess any differences between pre-pandemic and during pandemic job, team, and total satisfaction. Results (Table 14) indicated that team satisfaction did decrease however, this was not a statistically significant change from pre-pandemic team satisfaction (M = 7.76, SE = .270) to during the pandemic team satisfaction (M = 7.50, SE = .315), t (53) = 1.162, $p > .0)$. Here significance was $p = .250$. Job satisfaction was however, significantly different from pre-pandemic (M = 7.26, SE = .297) to during the pandemic (M = 6.56, SE = .321), t(53), 2.844, $p < .05$, suggesting a decrease in job satisfaction during the pandemic. Overall satisfaction was also found to be significantly different from prior to the pandemic (M = 15.02, SE = .547) to during the pandemic (M = 14.06, SE = .594), t(53) = 2.361, $p < .05)$ suggesting a significant decrease in total satisfaction.

Table 15

Team and Job Satisfaction Frequencies

		0 Very Dissatisfied	1	2	3	4	5	6	7	8	9	10 Very Satisfied	Total
PP Team Satisfaction	**N**	0	0	1	2	2	1	4	10	15	6	13	**54**
	%	0	0	1.8	3.5	3.5	1.8	7	17.5	26.3	10.5	22.8	
PP Job Satisfaction	**N**	1	0	1	3	1	1	9	9	13	9	7	**54**
	%	1.8	0	1.8	5.3	1.8	1.8	15.8	15.8	22.8	15.8	12.3	
DP Team Satisfaction	**N**	1	0	2	0	2	5	5	7	11	9	12	**54**
	%	1.8	0	3.5	0	3.5	8.8	8.8	12.3	19.3	15.8	21.1	
DP Job Satisfaction	**N**	1	0	2	2	3	11	8	7	8	4	8	**54**
	%	1.8	0	3.5	3.5	5.3	19.3	14	12.3	14	7	14	

Note:
* PP = Pre-Pandemic
* DP = During-Pandemic

4.4.4. Correlations

This study also aimed to explore whether there were correlations between team processes and *outcome*s as suggested by previous findings. Pearson's Corelation analysis was used as it allows the determination of the strength and direction between two scaled variables. As a result, the Pearson Correlation Coefficient *(r)* is used where values of .10 to .29 are considered small correlations, .30 to .49 are considered medium correlation and values between .50 to 1.0 are considered large correlations (Cohen, 1988, pp.79-81). Summary of some of these correlational analyses are presented in table 16. Analysis found the following correlations between process factors, outcome factors and process-and-outcome factors.

1. Perceived cohesion and trust – analysis suggests a medium positive correlation between perceived cohesion and team trust. This is statistically significant ($r = .431$, $p < .001$). Therefore, this suggests an increase or decrease in cohesion positively correlates with an increase or decrease in trust.
2. Perceived cohesion and perceived team effectiveness – analysis suggests a large positive correlation between perceived cohesion and perceived team effectiveness.

This is significant ($r = .580$, $p < 0.05$) therefore suggesting that an increase or decrease in perceived team cohesion positively correlates with an increase or decrease in team effectiveness.

3. Perceived cohesion and satisfaction – analysis suggests a large positive correlation between perceived cohesion and overall job and team satisfaction. This is statistically significant ($r = .663$, $p < .05$). Therefore, this would suggest that an increase or decrease in perceived team cohesion positively correlates with an increase or decrease in total satisfaction which is a combination of job and team satisfaction.
4. Trust and perceived team effectiveness – this correlation suggests a small, positive correlation which was statistically significant ($r = .291$, $p < .01$). This suggests that an increase or decrease in trust positively correlates with an increase or decrease in team effectiveness.
5. Trust and satisfaction – another correlation related to trust found a small, positive correlation which was statistically significant ($r = .268$, $p < .01$). Therefore, this suggests an increase or decrease in trust positively correlates with an increase or decrease in team effectiveness.
6. Team effectiveness and satisfaction – finally, team effectiveness was statistically, positively related to overall team and job satisfaction although the correlation is small ($r = .443$, $p < .05$). None-the-less the difference remains significant. Therefore, an increase or decrease in perceived team effectiveness is positively correlated with an increase or decrease in total satisfaction.

Although not part of the studies hypotheses, correlation analysis was used to also examine relationships between the two components of cohesion (belonging and morale). Results suggest a medium positive relationship between belonging and trust ($r = .402$, $p < .01$).

Belonging and perceived team effectiveness showed a large positive correlation (r = .503, p<.01). A large positive relationship was also found between belonging and satisfaction (r = .654, p<.01).

In relation to morale, a medium positive correlation was found between morale and team trust (r = .416, p<.01). A large positive relationship was found between morale and perceived team effectiveness (r = .598, p<.01) and finally, a large positive correlation as identified for morale and satisfaction. All of which suggest that as morale increases or decreases so do other process factors and outcome factors.

Table 16

Correlation Analysis of Process and Outcome Factors

Correlations

		COHESION	BELONGING	MORAL	TRUST	EFFECTIVENESS	SATISFACTION
COHESION	Pearson Correlation	1	.949**	.950**	.431**	.580**	.663**
	Sig. (2-tailed)		.000	.000	.001	.000	.000
	N	57	57	57	57	57	54
BELONGING	Pearson Correlation	.949**	1	.803**	.402**	.503**	.654**
	Sig. (2-tailed)	.000		.000	.002	.000	.000
	N	57	57	57	57	57	54
MORAL	Pearson Correlation	.950**	.803**	1	.416**	.598**	.607**
	Sig. (2-tailed)	.000	.000		.001	.000	.000
	N	57	57	57	57	57	54
TRUST	Pearson Correlation	.431**	.402**	.416**	1	.291*	.268*
	Sig. (2-tailed)	.001	.002	.001		.028	.050
	N	57	57	57	57	57	54
EFFECTIVENESS	Pearson Correlation	.580**	.503**	.598**	.291*	1	.443**
	Sig. (2-tailed)	.000	.000	.000	.028		.001
	N	57	57	57	57	57	54
SATISFACTION	Pearson Correlation	.663**	.654**	.607**	.268*	.443**	1
	Sig. (2-tailed)	.000	.000	.000	.050	.001	
	N	54	54	54	54	54	54

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

4.4.5. Feedback Regarding Virtual Working

In the final section of the survey, some participants provided responses to three open-ended questions. Their feedback was analysed using content analysis (Table 16). Forty-three participants told us about some of the challenges they had experiences when being part of a

virtual team. One of the most common themes was related to loss of support (e.g., in the moment support or "informal" support; *n* =18). This is important to remember as previous findings have highlighted support as being an important source of help for healthcare staff during the pandemic (Johnson et al., 2021).

"In the office I might catch the Occupational Therapist for a quick chat about a shared case, which offered both peer support and clinical support. When working virtually you think twice about calling or emailing, and may only choose to do so if you have a clinical question, rather than just for informal peer support."

Another common theme was related to "disconnect" and isolation (*n* = 18). For some, loss of connection was related to their work (e.g., with other agencies), *"when disconnected harder for some of the informal links with other agencies."* Whilst for some, the disconnect was related to the loss of connections *"Feeling isolated, not connected and removed", "Not feeling connected to my colleagues in the same way".*

The third most common challenge shared by participants was related to difficulties with technology (*n* = 17) in particular, internet connection issues which one participant reported to have *"impacted [their] productivity."* Another participant reported that *"Often because of connection we are not able to put cameras on which is then even more awkward especially if you have never met a person before."* These responses are similar to those reported by community mental health nurses who took part in the study by Foye et al., (2021) where many reported logistic challenges with using technology such as poor internet connection.

Table 17

Content Analysis of Challenges Experienced When Virtual Working

Challenges of being in a virtual team		
Code	**Tally**	**Examples**
Difficulties with Technology	17	*"Often because of connection we are not able to put cameras on which is then even more awkward especially if you have never met a person before."* *"using old NHS approved laptops"*
Difficulties communicating virtually	10	*"harder to know when to talk and sometimes meetings can feel awkward"* *"with less of the face to face you miss out on body language and individual facial expressions"* *"awkward out of sync interactions, ie time delay*
New ways of working	1	1 person specifically mentioned older members being resistant to new ways of working.
Loss of support – e.g., "informal" chats and debriefs	18	*"Not meeting up with smaller part of my team who are big support and make me want to work there"*
Harder to support others	5	"Struggling to support other team members emotionally when they are upset/struggling."
Informal chats (non-work related - social) Including having lunch or cuppa together	10	*"Not having the corridor conversations, not being able to have a coffee break with someone and make those connections with people informally which are so helpful to understanding how to relate to them and ultimately benefits the service users."* *"Small talk is very difficult"*
Disconnect and isolated	18	*"there is a greater divide forming between social care colleagues"* *"Not feeling connected to my colleagues in the same way"*
Meeting new people	6	*"Meeting new team members online and not really getting the measure of them. There are some people I work closely with and I've never discovered if they have torsos or even legs! For me they're just two dimensional heads and shoulders who measure a few centimetres square. I don't know how tall they are or what they smell like. It's hard to develop relationships."*
Exhausting adapting to new ways of working	1	
Too much time online Things take longer Fewer breaks	13	*"I think there have been more demands and expectations that people will work over their hours."* *"Going from one meeting to the next without getting up and walking to the clinic room means you can feel you haven't moved all day!"* "No relief from intensity of the work"
Work-life balance	2	
Perceptions and self-doubt	4	"have occasionally felt like I am not contributing enough" "less effective in some respects"
Client related comments (therapeutic bond, digital poverty)	7	"It was particularly difficult in terms of working with care homes, many of whom didn't particularly want to engage in using technology to allow their residents to access therapy and support."

Forty-two participants told us about some of the benefits of VT working (Table 18). The most common benefit was travelling less (*n* = 25). *"I'm not feeling exhausted from sitting in traffic on the motorway and no longer feel stressed about getting to an appointment on time."* Participants also commonly (*n* = 18) reported that VW has helped with arranging meetings for example one reported that *"... often means that more people are able to attend meetings as it is so easy to flick from one meeting to another and people are able to connect from anywhere."*

Table 18

Content Analysis of Benefits of Virtual Team Working

Benefits of being in a virtual team		
Code	**Tally**	**Examples**
Less Travel Including: Less parking issues Fitting in more meetings	29	*"Many more people are able to attend virtual meetings because they don't have to travel (which might take up half a day to be there for a one hour slot). There's a greater feeling of inclusiveness as a result of this."*
Money saving	3	*"it's saved me money with petrol and has contributed to saving the environment with reducing the number of cars on the roads"*
Easier to arrange meetings or contact people	22	*"Can be easy to arrange catch ups or meetings with colleagues who you might not typically be able to see as easily pre pandemic"*
Meetings are quicker and more focused	4	*"Meetings are more efficient (not necessarily more effective though)"*
More flexibility e.g., work around your day	8	*"My god, being able to wake up at 8:55am and still be early for work! No driving!"*
No more space issues including: Less distractions / interruptions e.g., shared office	7	*"We have a space issue at the office and not enough clinic rooms, so it has saved me a lot of time not having to book clinic rooms.* *"we do not need to worry about the venue for the meeting as that can often be a problem with limited room availability."*
More productive - can fit in more	8	
Better work-life balance	3	
Better wellbeing (e.g., More focus on wellbeing)	2	"More of a focus on our well-being, ensuring we have catch ups at least once a week to check in on each other" "Generally feeling less stressed"
CPD/ training	4	
Safety	1	Not being vulnerable to catch the virus.
Client related - e.g., can reach more	8	

When asked "after the pandemic, are there any aspects of virtual working that you would like to keep in your team?", 44 participants provided feedback (Table 19). Most commonly (n = 30), participants wanted to keep attending virtual meetings. Reasons for this included virtual meetings helping increase number of attendees due to reduced barriers such as less travel, ability to go from one meeting to another and quicker to arrange and better for time management. For example, one participant said, *"I want virtual meetings and training opportunities to continue as they are more effective in terms of time management."*

Table 19

Content Analysis of Aspects of Virtual Working Participants Wish to Keep

Aspects they would like to keep about VW		
Code	**Tally**	**Examples**
Virtual meetings (including supervision) - helps with increasing numbers, allows accessibility - lessens difficulty with travel - Quicker to arrange - Easier to get people together	30	*"Yes, people were able to attend meetings who otherwise might bit have been able to attend an in-person meeting; would be good for this to continue and people be able to virtually attend in-person meetings. Feels particularly important for our disabled colleagues."* *"Team meetings work better virtually as we never had space for the team in the meeting rooms before."* *"I want virtual meetings and training opportunities to continue as they are more effective in terms of time management."*
Training (e.g., CPD)	6	
Less travel	9	
Better work-life balance	2	
Quiet space / focus easier at home	4	*"working from home where you can have peace and comfort to work without having to hot desk"*
Flexibility of hours/ hybrid working	9	*"before the pandemic I was able to work hours that suited me and carry out my admin work from home. Now I have the tools to carry out most of my work virtually and I'm hoping that I'll be able to continue with this"*
No	1	*"No!!!"*
For clients	14	*"Had less DNAs on the phones that when seeing people in person."*

Finally, participants were provided the space to describe, in their own words anything else that they felt would be helpful for people to know in terms of helping teams function effectively when VW. Table 20 represents the content analysis of feedback from 22 participants. This content analysis was divided into three sections as three styles of comments

were identified. These included comments about benefits, challenges, and general recommendations.

Table 20

Open Feedback Regarding Benefits, Challenges and Recommendations from Participants

Recommendations		
Theme	**Tally**	**Examples**
Improving IT (including equipment needs to be met).	5	"don't have proper versions of MS teams so many funtions unavailable.
Training needs	5	"The teams can't function well without being skilled yo to use the platforms well." "it would be good to have IT support/education for older people, like some kinda IT champion?"
Meetings	3	"regular briefing meeting meetings were very helpful in pulling things together." "Creating a balance between the amount of virtual meetings which are had as this contributes to burn out."
VW etiquette	2	"(use mute, hand up function to speak etc)."
Creating spaces for connections	10	"it would be helpful for managers to encourage teams to plan social virtual activities.Maybe even dedicated an hour or two a month in work time to give everyone a break as we spend so much time in front of the laptop now." "just keeping in touch, checking in on one another. especially people who live on their own." "Smaller numbers in meetings, breaking up large groups into smaller working groups" "being more creative around encouraging small talk and more personal engagement by having warm-ups, break-out groups, pre-determined questions, using facilities that allow anonymous written feedback, etc."
Savings (time and money)	2	"savings must be gained on paying out less travelling expenses, and also the wasted time spent travelling"
Hybrid working	6	"I hope we continue with part remote and part office based working." "I think it would benefit staff well-being to know that flexibility is offered to fit with your needs"
Environmental	4	"Before the pandemic our work space was cramped and not very clean (due to hot desking)It could also get very noisy." "Also it is nice to be able to control your worming environment, for example I find the offices way too hot and sometimes too noisy. Working virtually I can control this." "for those that prefer being based at home this creates a much calmer and happier lifestyle" "I do feel having a break at lunch time also helps when based at home which often is not possible working from bases,"
Official support	1	"The Trust has been very good at introducing mental health support."
Client related	1	Particularly for my time, felt helpful to actually ascertain patient preference. (For us, people actually preferred one-off assessments, like for dementia, to be virtual; though they preferred longer term stuff like therapy to be in-person).
Narratives for team work	1	I think people should stop in the NHS calling people qualified and none qualified as It puts a big negative barrier up when talking about areas of work needing to be completed , it is much more true

		to say, I will do that as it's part of my role ,if you could do ..... Not make people feel less than, because we are all qualified to do the role we do and for closer working the them and us attitude should go.
Benefits		
Theme	**Tally**	**Examples**
Productivity	1	"Overall productivity has also increased"
Better work-life balance	1	"from a personal point I think work life balance has improved."
Client based	1	"a community team can work superbly well in supporting service users even when Staff are not office based."
Change	1	"It forced certain change on the team, and in a team where change is not generally welcomed I think this has proved that change is not all bad.
Challenges		
Working from home	1	"can be difficult to concentrate when working from home"
Loss of connection (e.g., isolation)	6	"I missed the real life contact" "the levels of isolation has affected my own MH"
Loss of support	4	"whilst staff well-being has been factored in, it has sometimes felt tokenistic (e.g- free lunches, gifts, NHS enamel badges and letters)"
Long meetings	1	"…it is a temptation to go from meeting to meeting without breaks."
IT issues	1	"my IT skills are not very strong"

Comments regarding benefits and challenges were supplements to the previous questions (Tables 17 and 18). Recommendations suggested by participants were also in line with the previous feedback which specifically highlighted for majority the need for action to create spaces to connect with each other when working virtually. Additionally, it also highlighted again the need for good IT equipment and training for IT use in order to work most effectively. Finally, some participants reported the benefits and hopes for continuation of some aspects of VW, recommending hybrid ways of working going forward.

4.5. Results of Research Questions

1. How has VW during the pandemic, changed the way NHS secondary mental health MDTs work?

   Overall, as expected, analysis suggests that for majority of NHS secondary mental health MDT workers who took part in this study, VW took over face-to-face working. Communication was done through telephone calls, video conferencing and messaging (e.g., e-mails). Microsoft teams was the most used and most satisfactory method of video conferencing whilst e-mails were the most used and satisfactory method of

instant messaging. Many saw an increase in frequency of MDT meetings, meeting with their own disciplines as well as meeting with external agencies. Many also saw an increase in wellbeing activities however, it must be noted that content analysis suggests this began to decrease as VW continued.

2. Has VW during the pandemic had an impact on team processes such as trust, perceived cohesion, and communication in these MDTs?

   In relation to perceived team cohesion, this significantly reduced during the pandemic when working virtually. In relation to team trust, this also significantly reduced during the pandemic.

3. Has VW during the pandemic had an impact on team *outcomes* such as effectiveness and satisfaction for these MDTs?

   Analysis suggests that in relation to perceived team effectiveness, although this appears to have decreased during the pandemic, this was not a significant decrease. Regarding satisfaction, as expected, analysis suggests a decrease in job, team and total satisfaction when working virtually during the pandemic, compared to face-to-face working prior to the pandemic.

4. Is there a link between the processes and outcomes from questions two and three in these MDTs?

   Correlation analysis suggest a positive correlation between two process factors (cohesion and trust) and outcome factors (team effectiveness and satisfaction). The analysis also identifies a positive correlation between process factors cohesion and trust. Similarly, positive correlations were found between outcome factors, team effectiveness and satisfaction.

5. What do MDT staff from NHS secondary MH teams say about VW during the pandemic?

Many participants reported that VW brought with it challenges such as technological issues, loss of support, feeling disconnected and isolated. However, they also reported benefits such as less travel required and easier arrangement and attendance of meetings. As a result, majority want to continue virtual meetings post pandemic.

6. How can we use the answers to these questions and previous findings to help VT effectiveness for secondary mental health MDTs?

   Chapter 5 will revisit the literature discussed in chapters one and two as well as reviewing outcome of the findings of this study to suggest clinical and research recommendations which could help VTs be effective for secondary mental health MDTs in particular as despite many industries returning to full face-to-face working, the NHS continues to take measures to protect its staff, service users and the economy.

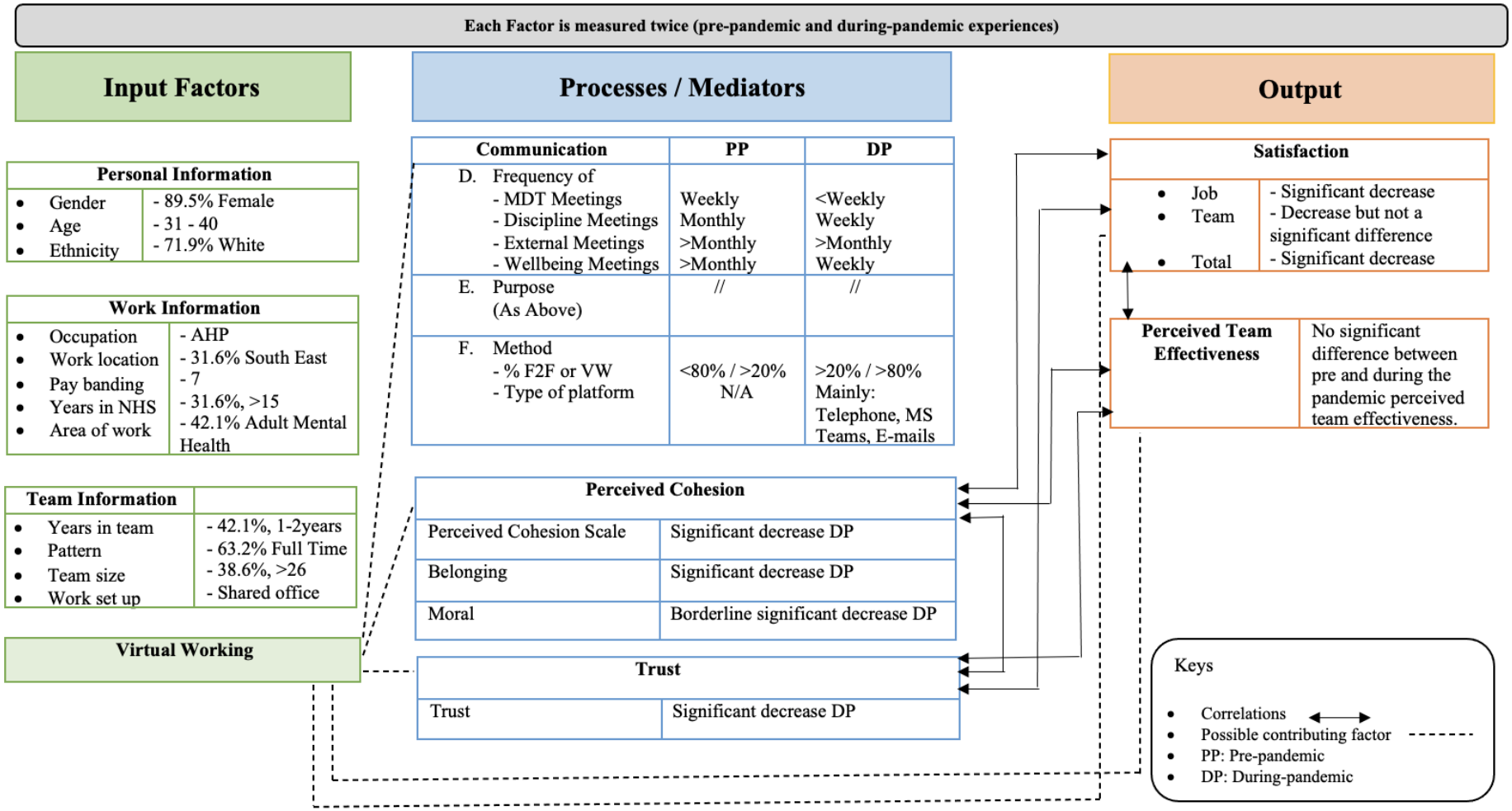
In addition to answering the research questions, for exploratory purposes, additional tests were conducted to examine whether input factors were related to any process or outcome factors. Chi-square tests found no significant evidence of an association between any input factors (e.g., work patterns, gender, ethnicity, pay band, occupation, team size) and team processes (cohesion and trust) or team output factors (effectiveness and satisfaction). Although chapters one and two suggested that some findings have found relationships between input factors, process and output factors, this study did not find this. However, this could be because of the low sample size as well as input factors not being a focus of the study.

4.6. Summary of Results

Figure 16 presents a visual glance of the results of the different analyses produced. Further analysis of findings along with evaluation of the study and possible clinical and research implications are discussed in chapter five.

Figure 16

Visual Representation of Summary of Results



Chapter 5. Discussion

5.1. Overview of Study Purpose

Two years on and the full impact of the pandemic, including its impact on teams, is still unknow. Whilst researchers continue extensive work on examining the impact of the pandemic on physical and mental health of the nation as well as the economy, insight is also required for other areas including impact of VW on mental health teams.

Although previous theories, models and findings provide some guidance in building and supporting effective teams, the evidence base relating to the effective working of VTs is less well developed. This is due to much of previous findings being based on the experiences of face-to-face teams as well as the inconsistencies with definitions, methods, measures, and sampling of studies exploring VTs. Furthermore, it remains unclear whether previous findings could be generalised to teams who have suddenly become virtual, without much (if any) choice because of a crisis (e.g., the COVID pandemic).

Since February 2022, mandatory “work from home” measures have been lifted by the government in England, however, many continue to work from home either full time or partially virtually (also referred to as hybrid working). Additionally, discussions continue amongst team leaders regarding some maintenance of aspects of VW going forward.

Therefore, this study aimed to present a picture of the experiences of VW for some secondary mental health MDT members during the pandemic, specifically exploring the impact of VW on team processes (cohesion, communication, and trust) and outcomes (perceived team effectiveness and satisfaction). It is hoped this can contribute to initiating and continuing discussions regarding how we could support the development of team effectiveness when working virtually.

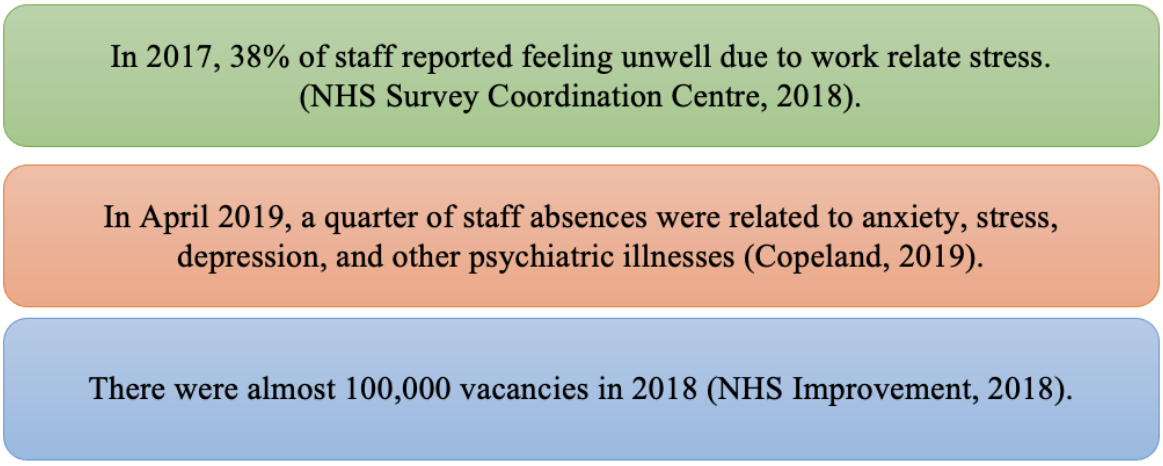
This is particularly important because effective teams are known to produce better desired outcomes for service users (e.g., higher quality patient care, improved patient safety

and lower hospitalisation rates, West and Lyubocnikova, 2013; Manser, 2009; Kavadias and Sommer, 2009), staff (e.g., reduced stress, improved job satisfaction; Buttigieg, West and Dawson, 2011) and ultimately, public health. As a result, team working has been a core part of many services including the NHS.

As reports continue to highlight the increase in demands for mental health services since the COVID pandemic began, identifying how we can support these services is crucial. It is estimated that over 10 million people may need new or additional support from mental health services because of the pandemic (O'Shea, 2020) which places a huge strain on already stretched mental health services (Figure 17). Therefore, there is a need for acknowledging, and understanding the experiences of MDTs providing the care in order to explore possible recommendations for service users and the systems surrounding them (e.g., the NHS, communities, government).

Figure 17

Some Facts and Figures of the NHS Workforce Prior to the Pandemic



5.2. Summary of Findings

Throughout this thesis, the IPO framework, has been used to understand VTs. This framework initially introduced by Hackman and Morris (1975) has dominated the field of studying teams and presents a way of understanding the factors and non-linear relationships

that contribute to a team's experiences. These include input, process, and output factors. Therefore, this framework will be used to also present the findings of this study as shown in Figure, 17.

5.2.1. Input Factors During the Pandemic

Whilst Previous findings have suggested that input factors whether at an individual-level (e.g., individual personality, age) or team-level (e.g., group size) could impact a team's processes and outcomes, the analyses of this study did not find a connection between personal and work-related demographics (input factors) or the process and outcome factors. However, it must be noted that first, input factors were not part of the focus of this study and second, these results must be used with caution due to the small sample size and the lack of diversity within the sample (e.g., occupation, setting, gender).

Although, arguably, some of the sample populations' demographics are a realistic representation of the current NHS workforce. For example, in March 2021, NHS England reported that 76.7% of the NHS workforce were female (NHS England, 2021). In relation to ethnicity, in 2020, 77.9% of the NHS workforce were identified as White (NHS digital, 2021), despite the current NHS being more diverse than ever before (NHS England, 2021).

In relation to team level input factors, it must be noted that majority of our participants were part of a team consisting of 26 or more members. Previous research had reported that VTs consisting of 13 or more members exhibited poorer outcomes (Acai, Sonnadara and O'Neill, 2018). This could be explained by the Social Loafing Theory (Ingham, George, James and Vaughn, 1974) which suggests people may use less effort at work when within a larger team because they may feel less responsible for team outcomes (Penarroja, Orengo and Zornoza, 2017).

However, our results did not find a significant statistical association between team size and team effectiveness. One possible reason for this may have been that first, teams of

participants of this study would have known each other prior to becoming a VT therefore, perceptions of responsibilities for team outcomes (if present prior to move to VW), could have remained the same. Second, the pandemic, as well as VW could have resulted in less contact with the wider team and so isolated work or work within smaller groups could have reduced social loafing.

5.2.2. Process Factors During the Pandemic

Process factors are often linked to interactions between team members such as cohesion and trust. Based on the literature review in chapters one and two, previous research largely suggest that these process factors can often be negatively impacted by VW and ultimately, negatively impact team outcomes. They also frequently associated virtual team communication barriers (e.g., reduced interactions and IT issues) as the main contributing factor for the decline of some team processes.

5.2.2.1. Loss of perceived cohesion

As identified in previous chapters, team cohesion does not have a single definition although, in general it tends to refer to how team members get along and the closeness team members feel towards each other (Jarvenpaa, Shaw and Staples, 2004). Previous findings suggested that cohesion can be negatively impacted by VW. This study examined whether VW would have the same negative consequences for VT cohesion during the pandemic when team members were expected to have known each other prior to moving to VW.

Results found that participants ratings of morale and belonging (components of cohesion) and overall perceived team cohesion, significantly decreased during the Pandemic, suggesting that VW could have negatively impacted perceived team cohesion. Additionally, similar to previous findings, this study found a correlation between perceived team cohesion and trust and two team outcomes (perceived team effectiveness and satisfaction) suggesting that cohesion could impact team effectiveness. Therefore, if cohesion is impacted negatively

by VW, VW could have a negative impact on team outcomes, specifically, team effectiveness.

In relation to sense of belonging, this has been associated with team identification which refers to the extent a person feels a positive sense of belonging to their team. This is important to consider as team identification amongst care workers has been found to support team outcomes such as members wellness during COVID (Venkatesh and Sangal 2020). Unfortunately, findings of this study suggested that there was a reduction in the sense of belonging during COVID, which would suggest a need for teams to explore ways to maintain (if not to improve) the sense of belonging when working virtually.

In relation to morale, Bollen and Hoyle (1990) suggested that reduced morale could result in reduced motivation for some team members to achieve team goals which could result in poorer outcomes. Correlational analysis found a positive relationship between morale and both team outcome factors (perceived team effectiveness and satisfaction) suggesting that as perceived morale reduced during covid this could contribute to reduced perceived team effectiveness.

The findings of this correlational analysis also suggest further need into identifying ways to maintain or increase perceived morale within VTs. This is important as the 2021 NHS annual survey also found a decline in scores of morale despite scores improving between 2017 and 2020. Theme of morale within the survey results were associated with participants thinking about leaving, work pressures and work-related stressors.

Studies of cohesion within teams are very important as they contribute to our understanding of how team members get along, achieve goals and their desires to stay as a team (Garrison, Wakefield, Xu, and Kim, 2010; Bollen and Hoyle, 1990). Cohesion in teams has been linked to better group wellbeing, task performance, better perceived team

effectiveness, reduced absence, better staff retention and better decision making in teams, including mental health teams (Lemieux-Charles and McGuire, 2006).

Within the NHS, identifying ways to increase the desire to remain in a team (e.g., through developing and maintaining cohesion) could help prevent or reduce number of NHS staff leaving the organisation. Palmer and Rolewicz (2022) reported that NHS staff leavers are increasing and could continue increasing. In relation to staff thinking about leaving the organisation, the annual NHS staff survey in 2021 found that despite improving in 2019 and 2020, 31.1% of participants reported that they often thought about leaving the organisation.

Challenges with retainment and recruitment has always been a critical concern even prior to the pandemic (NHS Providers, 2017). In 2017, over 60% of NHS trust chairs and chief executives identified work pressures as one of the biggest challenges to the issues of recruitment and retention (NHS Providers, 2017). Additionally, in 2020, 44% of staff who completed the annual NHS survey (2020) reported feeling unwell due to work-related stresses. As better cohesion has been linked to better wellbeing, desire to stay as a team, reduce absence and retention of staff, cohesion should be considered as one route to reducing some of these challenges within the NHS (e.g., sick leave) specially if teams are to maintain some aspects of VW.

5.2.2.2. Loss of trust

In relation to trust, like cohesion, there is no single definition or way of measuring trust. Trust is a multi-layered concept that represents a team members willingness to be vulnerable amongst colleagues. Tzafrir and Dolan (2004) identified three concepts of trust which summarised some of the themes found in the literature. These included vulnerability (willingness to take a risk in relationships), previous interactions or reciprocity (whether this was perceived as positive or not) and expectations (for behaviours).

Similar to previous findings, this study found that when working virtually, there was a significant reduction in team trust during the pandemic. This would suggest that VW had a negative impact on trust. Additionally, like previous findings, correlation analyses also found a significant correlation between cohesion (process factor), perceived team effectiveness and satisfaction (outcome factors). Although these correlations were small, they suggest that trust can be important for team effectiveness.

We know from previous research that trust can be built in teams through social interactions and informal chats e.g., around the kettle or a chat waiting for everyone to park their cars and get into the meeting. Based on feedback from some participants, it appears that some opportunities were created to continue providing such spaces when VW during the pandemic. However, to our knowledge no study has been conducted to identify whether virtual spaces providing such opportunities would have the same level of impact as face-to-face spaces for informal and unplanned discussions (e.g., those around the kettle) which could support initiation, development, and maintenance of trust.

However, overall, the outcome of the results of trust within this study, must be interpreted and used with caution because as discussed, due to researcher error, a full trust measure was not used and therefore results cannot be interpreted based on a reliable or valid measure. If results of this study are to be interpreted similar to previous findings, based on these outcomes, we must invest in building or maintaining trust within VTs. This is important as trust within a team has been found to help with knowledge sharing which is one of the key elements of an MDT. Team trust has also been associated with better satisfaction and cohesion (Edwards and Sridhar, 2003).

5.2.2.3. Changes in communication

As found within the SLR, consonance amongst researchers is that communication challenges within virtual teams could be one of the main contributing factors to reduced

cohesion, trust, satisfaction, and team effectiveness. Literature reviews identified three common themes within VT research which included communication frequency, purpose of the communication and method of communication.

Previous research suggested that lack of communication in VTs as well as lack of non-verbal social cues impacted negatively on team processes and outcomes, especially team effectiveness (Hambley, O'Neill, Kline, 2007; Hollingshead and McGrath, 1995). This study could not statistically analyse correlations between communication and other process or outcome factors, due to not using a specific standardised measure. However, results of this study found that unlike previous results, there was an increase in communication frequency amongst MDT members working virtually during COVID, in particular formal communication.

For our participants, formal communication included meetings with their MDTs, own discipline, or outside agencies, all of which, increased when VW during the pandemic. This is important to remember as Maznevski and Chudoba (2000) found that global VTs who were more successful, reported frequent communication similar to non-virtual teams. Although, some previous researchers also reported that when VTs communicate more than none-VTs, their communication effectiveness or performance could decrease (Desanctis and Monge, 1988). Unfortunately, we were not able to assess this given our methodological processes, design and limitations such as time restrictions.

The frequency of gatherings for wellbeing activities also increased during the pandemic however, content analysis suggested that for some participants this increase was temporary, mainly at the start of the pandemic. Content analysis also suggested that other opportunities for informal communication was reduced which, like previous findings could suggest that informal interactions and socialising can be difficult to achieve in VTs who only tend to come together virtually for meetings. Although our participants reported that some

non- meeting related gatherings increased or new ones were introduced, lack of opportunities to speak to each other without planned timing to do so was one of the common challenges of VW for the participants.

In relation to method of communication this study explored how MDT members communicated. Majority of participants reported using the telephone, e-mails, and Microsoft Teams (MS Teams) which was also rated higher than other video conferencing platforms. Possible reasons for this could include a MS Teams collaboration with the NHS which includes a guidebook for NHS on how to use the platform. This is important to note as participants recommended training for use of virtual platforms. It is also reported that this collaboration has saved almost three million hours of staff time (NHS Digital, 2021). NHS Digital (2021) reported that from March 2020, within the first six months of its use, the platform replaced 14.5 million phone calls and was used for more than 32 million virtual meetings.

Furthermore, it is suggested that staff could save five minutes (if not more) every time they arranged a virtual meeting compared to a face-to-face meeting. Reasons for this could include the reduced need for looking for meeting rooms, (as also reported by some of our participants). However, with many of our participants reporting significant IT related issues, the question is raised about how much time is lost when VW due to IT related problems including limitations with equipment. Nonetheless, majority of participants reported to have felt supported and reported having the right equipment to work from home.

With this in mind, we must also reflect on the SLR findings which suggested some team members preferred traditional methods of virtual communication (phone calls and e-mails). Therefore, if communication is one cause of reduced cohesion, trust, satisfaction, and team effectiveness in VTs and if experiences may vary for individuals (e.g., older VT members have reported more challenges and less satisfaction with VW), team leaders should

focus on creating person centred and team centred strategies to support VT communication. This could include identification of ways of hybrid working which has been recommended by previous researchers identifying the essential need for some level of face-to-face working. Therefore, plans should consider identifying the days and the number of days team members should work from the office or from home and the activities for each mode of working (e.g., joint activities when working from home and joint activities when physically together).

5.2.3. Output Factor During the Pandemic

Outputs refer to outcomes' teams produce which can include team effectiveness, performance (quantity and quality), staff satisfaction, service user satisfaction and achievement of goals.

5.2.3.1. Loss of satisfaction

Relative to work, satisfaction can be explored in relation to job satisfaction or team satisfaction. Examples of job satisfaction can be whether someone is happy with their job-related criteria', job resources or with their organisation's behaviours. Examples of team satisfaction include relationships with colleagues such as feelings of cohesion and trust (Gurtner, Kolbe and Boos, 2007). Both types of work-related satisfaction have been linked with team processes and effectiveness. For example, satisfaction with one's VT has been found to support stronger team identity, more frequent communication, and better conflict management (Zimmermann, 2011). However, some researchers suggest that in VTs, compared to face-to-face teams, satisfaction in general can be lower (Martins et al., 2004).

Our results suggest that there was a statistically significant reduction in job satisfaction during the pandemic. However, although there was some decline in team satisfaction, this was not statistically significant. Nonetheless, overall satisfaction significantly weakened during the pandemic. One explanation for lower satisfaction in VTs might be the reduced interactions between colleagues which will be discussed in the section

5.2.5. As a result of some of the lost opportunities to build connections (e.g., chats over the kettle), some researchers suggest that VT members can feel isolated and less satisfied (Kirkman et al., 2002). Feedback from the content analysis of this study would also suggest this to be a possible factor, contributing to reduced satisfaction levels.

Another factor that has been found to impact VT satisfaction has been members knowledge and confidence in using IT tools and technologies. Those with less knowledge and confidence report less satisfaction (Fuller, Vician and Brown, 2016; Hollingshead and McGrath, 1995). This was also a common theme in our content analysis both when looking at challenges of virtual working and when participants provided recommendations to be considered.

5.2.3.2. Perceived team effectiveness

Team effectiveness is sometimes referred to as "a team's capacity to achieve its goals and objectives. This capacity leads to improved outcomes for team members (e.g., team member satisfaction and willingness to remain together)", (Cooke and Hilton, 2015, p.2). Contradictory to previous research, the analysis of this study found that during the pandemic, team effectiveness decreases when working virtually however, this reduction was not a statistically significant reduction.

Therefore, this raises the question of whether VTs during the pandemic, put together because of a crisis have similar experiences to other VTs. One explanation for this could be the fact that participants of this study, unlike participants of majority of previous studies, would have known each other and worked towards similar team outcomes prior to VW. Bartsch et al., (2020) suggested that during the pandemic, working in a crisis could have resulted in worries about negative implications (e.g., diminished performance) which may have contributed to employees compensating for this potential decrease which could have resulted in their individual work performance not being diminished. In relation to our results,

if all team members had this experience, focused on their performance could explain why overall, team effectiveness did not significantly decrease.

Nonetheless, this study, like previous findings found corelations between cohesion (large correlation), trust (small correlation) and satisfaction (small correlation). A possible explanation for the small correlations between trust and satisfaction could be that trust and satisfaction measures used were not standardised or valid. These results could suggest that these factors could help us identify ways to improve a teams' effectiveness and experiences of working virtually. In return, improving effectiveness could support team processes, produce high quality services, and increase satisfaction for its members.

5.2.4. The Non-linier Relations

Whilst the findings of this study present a picture of how VW may have impacted teams and the teams' effectiveness, unfortunately it cannot specify cause and effect of correlations between inputs, processes, and outputs. This remains a limitation of the field, exploring VTs using the IPO framework. Nonetheless, the use of the IPO framework and its adaptations, alongside different theories and models continues to support further our understanding of VTs. This can in return, allow for exploration of interventions that could support VT effective and is in line with the critical realist stance which has shaped this project. Contributing findings include the results of the studies hypotheses as listed here.

H1. In relation to the hypothesis "there will be a decline in team process factors (perceived team cohesion and team trust) during the pandemic", findings confirmed the study's hypothesis that differences emerged. It was predicted, based on previous findings that VW could have a negative impact on cohesion and trust which was indicated in the significant decline of cohesion and trust in the teams of our participants.

H2. In relation to the hypothesis "there will be a decline of team outcome factors (perceived effectiveness and team satisfactions)", findings suggested that team effectiveness reduced

during the pandemic however, this reduction was not statistically significant. Similarly, team satisfaction was shown to decline during the pandemic although team satisfaction alone, did not significantly reduce when compared to pre-pandemic scores. These results would suggest that VW could have had some impact on team effectiveness and team satisfaction, although, this was not statistically significant.

H3. In relation to the hypothesis "there will be a positive relationship between team processes (perceived cohesion and trust) and team outcomes (perceived effectiveness and team satisfaction.)", the results of this study found some correlations between these team factors. Results indicated that there was a large correlation between cohesion and team effectiveness and satisfaction. Results also found small correlations between trust, effectiveness, and satisfaction. Therefore, this could suggest that non-linear relations between team processes and output factors exist however, the strength and direction of these relations require further investigation.

H4. In relation to the hypothesis "there will be a positive relationship between perceived team cohesion and team trust" results found a significant correlation between the two process factors. This could suggest that similar to previous findings, there is a non-linear relationship between team processes.

H5. In relation to the hypothesis "there will be a positive relationship between perceived team effectiveness and overall satisfaction", a small correlation was found between the two output factors, team effectiveness and satisfaction. This would suggest that similar to previous findings, there is a non-linear relationship between team factors.

5.3. Possible Contributing Factors

Based on previous findings and the findings of this study, it could be argued that VW could have a negative impact on perceived team cohesion, trust, perceived team effectiveness

and satisfaction. A common theme in relation to possible contributing factors to this is how virtuality can impact communication within teams.

Previous studies had suggested that when working virtually, amount of communication with team members often reduced and this theory has been used as one explanation for challenges in building trust and cohesion in teams. However, results of this study would suggest that during the pandemic, when working virtually, secondary mental health services may have experienced an increase in communication through more frequent MDT, discipline only and outside agency meetings. But, despite this increase in formal communication, findings continued to suggest a decrease in perceived cohesion, trust, and satisfaction.

One reason for this could be that it is unlikely that these meetings allowed for opportunities to have non-work-related conversations. Second, whilst further data suggested that wellbeing activities also increased, content analysis suggested that participants wished for more opportunities to have informal and unplanned discussions. It could be argued that if such opportunities were provided, there may not have been a statistically significant reduction in cohesion, trust, and satisfaction during the pandemic when working virtually.

The lack of opportunities for informal discussions could have also been a barrier for initiating, developing and maintaining trust, cohesion, and satisfaction. As identified by Blenke (2013), face-to-face communication allows for opportunities to have informal "campfire chats" therefore it is important to know how opportunities for "campfire chats" could be created in VTs. Similarly, Symbolic Convergence Theory (Bormann, 1983; Broman, Cragan and Shields, 1994) highlights that developing cohesion in teams is through social interactions that allows members to share information (e.g., non-work-related discussions such as jokes, things someone likes and dislikes) about themselves, providing a shared context for the group, strengthening bonds and cohesion.

However, arguably, due to having worked together prior to the move to VW, it would have been expected that team members would have had some knowledge of each other's personalities, likes and dislikes. They would have also been expected to have had some shared stories and contexts with each other. Therefore, it could be argued that in the teams of our participants, lack of knowledge of one another may not have been a contributing factor rather, opportunities to use these shared stories and understanding of each other could have been the barrier. This possible explanation could also be seen in the responses of participants who reported that the loss of such opportunities was a challenge of VW for them and their team.

Nonetheless, we must not forget that for some participants, lack of space and opportunities for informal discussions may not necessarily result in loss of personal perceived cohesion, trust, satisfaction, and perceived effectiveness. This is because some participants may prefer less interactions. For example, Kirkman et al., (2002) found that for VT team members, working virtually increased satisfaction because of reduced interactions that may have previously involved gossip and interruptions. Additionally, this way of working could fit with some personality types.

Virtual working could also be beneficial for colleagues who may wish for and benefit from less face-to-face social interactions. This can include neurodivergent colleagues, those with mental health difficulties and some from certain cultural backgrounds. One way to explore this would be regular feedback and assessment of satisfaction more than the annual appraisals or annual NHS staff survey. Additionally, both person-centred and team-centred evaluations could further support building of effective teams (face-to-face, virtual or hybrid).

In relation to trust, previous research again, suggest that building trust in virtual teams can be difficult because it takes time to trust someone you may not know. As a result, we would have expected for trust to remain the same for our participants who would have known

each other prior to VW. However, there was a decrease in level of team trust. According to Jarvenpaa et al., (1998) this could be because trust requires continual face-to-face interactions. Kirkman et al., (2002) also reported that rapid responses could support fostering of trust and team leaders could ensure consistency of team interactions. This is supported by previous researchers who reported that many VTs experience delays in responses which contributed to misunderstandings, loss of trust and conflict.

Another possible reason for the reduction of trust during the pandemic compared to pre-pandemic could be that due to reduced connections, some team leaders may have engaged in more monitoring of employees or were more controlling of activities. As a result, this could result in reduced perceptions of self-control by employees which could have a negative impact on trust with team leaders and reduced work-related satisfaction (Ford et al., 2017; Rane, 2021).

Finally, because team members working virtually during the pandemic would have been expected to have known and worked together previously, some may not have expected any reduction in perceived team processes (e.g., cohesion and trust) and outcomes (team effectiveness and satisfaction) during the pandemic. Therefore, the reductions reported by this study could be as a result of personal experiences such as surviving during a pandemic, a difficult, unpredictable period of our lives. This study looked at individual perceptions of teams and perceptions can be subjective, influenced by previous and current life and work-related experiences. If the study had used alternative measures with the whole team (e.g., longitudinal observations, standardised team outcome measures), rather than individuals, results of cohesion, trust, satisfaction, and team effectiveness may have been different.

One example of how individual factors may have impacted the perceived feedback for this study includes the five-stage grief model by Kuebler-Ross, 1969. This model should be considered when looking at possible contributing factors to the results of this and any study

during COVID. This is because this model highlights that when experiencing grief, we can go through five different stages. These stages include denial, anger, bargaining, depression, and acceptance. These are non-linear stages and people can experience them for minutes, hours, months, and years. Some researchers believe that these stages can also be experienced with any form of loss, not just the loss of a loved one.

In relation to living during the pandemic, especially during lockdowns everybody experienced some form of loss. This included loss of connections with friends, family, colleagues (humans in general!), loss of routines we may have had for years and for some, loss of job duties, loss of certain roles played within the household, loss of jobs and passing of loved ones. Bautista (2021) connected the five-stage grief model with possible experiences during the pandemic. For example, in relation to denial, they highlighted how, at the start of one lockdown (March 2020), many may have felt that this would be a short measure (denial). This could have later become anger (e.g., frustrated with the situation or the government and feeling helpless).

If this is true of the experiences of participants, for any research related to the pandemic we must consider that participants may have been within any of these stages during their participation and so, their responses may have been true for the stage they were in at that very moment. Other personal circumstances during the pandemic could have also impacted work experiences. This could include needing to home-school children and facing additional family duties (Kabadayi and Tuzovic, 2020).

5.4. Limitations of the Study

In relation to our sample, this study used social media for recruitment and as not all NHS secondary mental health MDT members would use these platforms, the sample is biased. Furthermore, we must question whether the sample represented only participants interested in exploring impact of the pandemic. This can include clinical psychologists

(majority of participants of this study) who may have an interest in leading VTs, understanding human behaviours and contributing to further research. This also highlights the lack of representation from other professions (e.g., administrative members, nurses, and social workers).

The sample may have also excluded those feeling most under pressure within the NHS who may have not felt able to give or justify the time to respond to a long questionnaire such as nurses who may have continued to spend less time on computers or emails whilst working face-to-face with patients even if the rest of their team might have been working virtually. This sample also lacked diversity in relation to service area (e.g., child, adult, or older adult services) as well as non-NHS services which means findings are skewed and cannot be generalised to all, highlighting the need for further research.

Other members from community mental health services excluded from this study included team members who worked on an ad hoc, bank contract basis however, this was because it was felt that their experiences with perceived team cohesion, communication, satisfaction, and effectiveness are likely to be different due to possible lack of or inconsistent contact with team members. Members of inpatient, crisis and/ or forensic services were also excluded as their way of working was expected not to have changed much during the pandemic. This is because they would have been required to continue working face-to-face with many team members and clients. However, as researchers we must investigate their experiences. It is likely they would have needed to experience some level of VW or would have been part of a team consisting of both virtual and face-to-face members.

Future studies should also consider exploring team relations between bank staff and permanent team members to identify feelings of belonging and morale between the two groups specially as contributions of bank/ agency staff could impact the team's effectiveness and experiences of process factors. Further insight into this relationship could also support

services consider how to (if required) help bank and agency staff join teams permanently to help with current NHS difficulties with recruitment and retention. This is also important because during the pandemic due to staff being redeployment and sickness, many services relied on bank and agency services. Furthermore, evidence suggests that the NHS was (pre-pandemic) and is continuing to rely on bank and agency staff for support in particular due to increase in staff leaving, staff sickness, increase demand and difficulties with recruitment. In 2018, NHS news (NHS England 2018) reported that NHS services could save over £480 million by not using bank over agency staff, it saves even more by replacing temporary staff with permanent staff.

Although the sample size was close to that suggested by G*Power calculations, the sample size could be considered small. One reason for this might have been that survey completion required time spent on a computer and as shown from feedback from participants, some may have felt they were spending too much time on a screen already let alone spending another 26 minutes (average) and beyond completing a survey. Recruitment via specific trusts was considered to boost response rates however, due to the impact of the pandemic on NHS trusts and the researcher, as well as time limitations of the DclinPsy programme, this was not pursued further.

In relation to the design of the study, we must consider the implications of the fact that this was not a controlled study. Therefore, there could be various alternative explanations for the findings. Some of these explanations have been introduced above such as the impact of personal experiences living during the pandemic which could impact perceptions of one's team. Additionally, as presented in the IPO framework in chapter one, numerous variables contribute to a team and the teams effectiveness. Therefore, the interpretations of the results of this study are limited by the variables under investigation (e.g., cohesion and trust).

Regarding the measures used, as mentioned above, it must be noted that due to the limited number of researchers who have used virtual samples, measures require further data regarding their reliability and validity. Additionally, two measures used (cohesion and effectiveness) have been designed to specifically rely on people's perceptions and all measures and questions used in this study also relied on the need to recall team dynamics pre-pandemic as well as recalling how one may have perceived their team.

In relation to recall, this study required participants to reflect and recall their experiences with their team raising questions about recall bias. Recall bias is a type of bias that can occur when participants may not accurately remember and report on the past (e.g., events or experiences with their team). This highlights once more that a team should be evaluated throughout its life span rather than at particular points (especially when there is a crisis) indicating the need for proactive rather than reactive research when looking to understand and support teams.

Based on previous findings, perceived team effectiveness was expected to reduce during the pandemic, when VW however, the results of this study did not indicate a reduction of perceived team effectiveness. One possible explanation for this could be The Team Halo Effect (Naquin and Tynan, 2003). The team halo effect suggests that usually, teams, as a collaborative are not blamed for failures (though as a collective they are credited for achievements) rather, individuals are seen as causing team failures. Therefore, given that this study and its questions focused on teams, the narrative alone could have influenced what was recalled perceived regarding collective team events and experiences. Had questions had a different focus on experiences with team members individually, perhaps significance of perceived cohesion, trust, effectiveness, and satisfaction may have been different.

5.5. Clinical Implications and Recommendation

5.5.1. Communication – informal chats

In relation to communication and connecting with others, previous studies and findings of this study have reported that opportunities for casual conversations and greetings are reduced in VTs. One implication of this could be reduce social and psychological connections in VTs (Biocca, Harms, and Burgoon, 2003) which can result in challenges in forming interpersonal relations, trust, cohesion and so team effectiveness and satisfaction (Jarvenpaa & Leidner, 1998).

Therefore, it could be argued that hybrid ways of working maybe more beneficial. Furthermore, discussions must be had within each team to identify what form of informal spaces they would benefit from when working virtually. For example, managers could consider identifying specific times in diaries where people have opportunities to get in touch with each other to simply, have a "cuppa". For example, one participant reported that their team engaged in "afternoon cuppa".

It would be important to note that this form of structured time may also be beneficial even when face-to-face in the office as increasing pressures in mental health services could further reduce opportunities to simply chat over the kettle or in the corridors. Additionally, Jarvenpaa, Shaw and Staples (2004) also suggested that structured settings created by managers (e.g., socialization, planning and coordination of activities) could support situations where low trust could lead to negative attitudes and further loss of trust.

In relation to the NHS, service leads should also consider whether when staff have the time, do they have the physical spaced to have open or non-work-related conversation. This is particularly important to consider because more and more NHS services appear to not have dedicated lunch/ tea rooms and rather have a corner with a kettle and microwave in a shared

office where people would be working. This is also highlighted by The NHS Staff Council when focusing on staff wellbeing (The NHS Staff Council, 2021).

5.5.2. Virtual meetings

"Team meetings work better virtually as we never had space for the team in the meeting rooms before."

Content analysis showed that majority of participants wished to continue virtual meetings post pandemic. Reasons for this included the need for less travel, not needing to be in cramped meeting rooms and not needing to arrange meetings rooms in advance. Additionally, it was reported that virtual meetings provided opportunities for more networking with colleagues from your own or other teams whom you may not have usually attended your team meetings. This is similar to findings and recommendations by Bhome et al., (2021) who found that community staff from older adult mental health services also wanted virtual team meetings to continue post pandemic.

"I would also like to keep virtual meetings for network and professionals meetings as it has been easier to get other agencies to participate."

Therefore, further investigation is required to understand what features of virtual meetings participants want and need. It is important for services to be mindful that meeting routines and strategies do not fully need to change however, teams must identify together, how to create opportunities for social communication (even in formal meetings) although, it would be important for this social communication not to substitute task communication, rather social communication comments should be ones that complement task communication (Pinjani and Palvia, 2013). Alongside these discussions, services must remember that if virtual teams meetings are to continue, training and equipment should be considered and prioritised.

5.5.3. Training and Equipment

What we know from previous findings and the current study is that to support virtual meetings, organisations must ensure to invest in reliable equipment to allow for an effective meeting. This could include identification of a reliable platform (e.g., MS teams mostly used and preferred by participants of this study) which includes features that the team identify as required.

Training for technology use has been recommended by previous researchers who have suggested training can empower VT members (Kirkman et al., 2002). Findings of this study would also recommend organisations to consider providing training for use of virtual equipment's and platforms. Whilst training may be costly, services could consider written or video forms of sharing instructions to reduce the cost of needing trainers for each service, refresher trainings, commute for trainers. Written or video instructions/ training could also help ensure information is accessible by colleagues with different learning needs (e.g., visual learners or colleagues with dyslexia). Alternatively, online training sessions can reduce costs by eliminating the need for traveling of the trainer and trainees as well as reducing cost and time of room bookings.

When identifying necessary equipment, services should also consider the additional costs employees may endure when working virtually from home. For example, in the current climate of financial issues in the UK, in particular with rise of electricity and gas prices. However, at the same time, with petrol prices rising, managers could consider including such factors in employees' supervisions or annual reviews to identify with them whether work from home would support their living costs. If so, what patterns and methods of working could be helpful.

5.5.4. Environmental factors

Additionally, we must not forget the issues of our increasing carbon footprints on the environment. According to Acerini et al., from the Carbon Trust (2021), working from home during COVID helped save carbon (e.g., due to reduced commuting) despite consideration of each individual then using energy at home for heating, cooling and home office equipment. However, they highlighted that more research is required, to clearly identify benefits and costs of face-to-face, virtual and hybrid ways of working for each team and each country.

Additionally, opportunities for virtual working could help with challenges many NHS settings experienced prior to the pandemic. This includes use of shared offices where staff maybe required to find a space to work before facing challenges such as noise pollution, temperature changes (some would like a cold office whilst others want a warmer room), to name a few.

5.5.5. Support

Several participants of this study shared their concern for colleagues who may have received reduced support when working virtually. One way of assessing the level of support team members may require is to ensure regular check ins, as advised by Kirkman (2002).

Findings of this study, similar to those of Bhome et al., (2021) found that accessing support from colleagues was a challenge when working virtually. Bhome et al., (2021) found that peer support was seen as helpful. Therefore, services should explore ways peer support could be implemented. One example could be peer supervision or “buddy systems”. These peer meetings could include walking and talking on the telephone whilst working apart from each other. This was a method of supervision used by some participants of this study and seen as a benefit of virtual working. However, “buddy systems” must be introduced with caution specially if team dynamics may have raised questions and challenges prior or during

the pandemic. Therefore, once again, we reach the conclusion that hybrid ways of working might be a good solution for these barriers of VW.

5.5.6. Hybrid working

Hybrid ways of working could also support the inclusion of colleagues who may face challenges working face-to-face (e.g., due to mental health difficulties, physical health needs and personal responsibility). For example, a participant specifically spoke about benefits of virtual working for colleagues with disabilities. This would also be fitting with the NHS inclusivity and diversity goals. Kirkman et al., (2002) also highlighted the need for considering individual differences. Hybrid ways of working could also support teams prepare for other possible scenarios where virtual working would be beneficial. This includes possible future waves of COVID, other pandemics, rail strikes and heat waves or snow!

"Yes, people were able to attend meetings who otherwise might not have been able to attend an in-person meeting; would be good for this to continue and people be able to virtually attend in-person meetings. Feels particularly important for our disabled colleagues."

As discussed earlier, person-centred, and team-centred approaches to understanding teams and recommending personalised interventions for them would be useful. Additionally, supervisors, managers and team leads must identify a balance that provides individual benefits whilst also maintain benefits for the whole team and the service. Team leaders should also be reminded that hybrid ways of working could hold dangers for creation of in-group and outgroup or "us" and "them" dynamics.

For example, if left to choose their own patterns of work, certain staff may only work virtually whilst others could work face-to-face. Alternatively, team leaders may consider dividing teams into small groups and suggesting a rota where one group would work in the office on certain days whilst the other group works virtually before each group swaps ways of

working on other days. Unfortunately, this could result in in-group, out-group dynamics. Consequences of this can include the in-group excluding the out-group, out-group feeling unheard, feeling as though they are in the "wrong" team which can impact perceived team cohesion, create a barrier for team trust, result in reduced team satisfaction and less engagement towards team goals, therefore impacting team effectiveness (Huang and Ocker, 2006).

To help with processes of understanding, working in and helping virtual teams, services could consider sharing the possible implications of working virtually full time. For example, key findings of the literature and results of this study could be shared with teams to summarise some possible implications of virtual working.

5.5.7. Concerns for Clients

Some participants of this study, similar to participants of Bhome et al (2021), highlighted their concerns for clients. As noted early on, when reviewing existing literature, findings suggested that during the pandemic, focus was placed on exploring ways to support clients when teams work virtually. Therefore, teams should consider identifying and accessing these articles to share with their team members. This can include specific guidance from different disciplines such ones from the Association of Clinical Psychologists (2020). Additionally, client risk assessments should include additional questions that considers possible benefits and challenges of virtual working for the clients.

5.5.8. Psychology

From a clinical psychology perspective, clinicians hold many skills that could support teams. This includes leading teams, service development, consultation, training, research, and supervision for their own and other disciplines. For example, clinical psychologists could promote thinking of how to evaluate teams throughout their life span, introduce team building activates as well as supporting colleagues impacted by COVID (e.g., supervision

and reflective groups). Some participants reported the benefits of reflective groups which clinical psychologists could introduce and lead. Additionally, psychologists can use a trauma informed care approach to support teams returning from a crisis and a time of unpredictability. This could be similar to the work of trauma-informed nursing leaders who focus on posttraumatic growth (Handzel, 2022).

To be able to consider the above, clinical psychologists should actively continue engagement in continuing professional development (CPD) in particular, focusing on teamwork (face-to-face, virtual or hybrid) and what could help them be more effective. For example, time should be placed on developing knowledge of previous literature and those presented during the pandemic, including the findings of this study. This approach as well as reflective spaces lead by psychologists is in line with the guidance written by the British Psychological Society (Highfield et al., 2020).

Ongoing learning can also help introduce the IPO model, breaking teams down to the various components which could support psychologists, to target specific areas of need in teams. Although the IPO model is not traditionally a psychological model itself, the structure is well known within the field. One big similarity of the IPO model to other psychological models is its ability to break down big social concepts and experiences to allow us targeted, step approach to social dynamics. This includes other well-known psychological team models such as Tuckman's 5 stages of team development (1965).

Most importantly, as guidance from the British Psychological Society (Highfield et al., 2020) highlights, in your journey of supporting the teams you are working for and with, do not forget your own wellbeing and remember that you do not need to have all the solutions all the time, you can always redirect colleagues to relevant resources which you can all, as a team explore.

5.5.9. Leading Virtual or Hybrid Teams

If, similar to the findings of this study managers find that team effectiveness and performance has not reduced during COVID, this must be communicated with team members. Feedback about team effectiveness has been found to improve motivation which could further support team outcomes and sense of group membership (Singh and Mucherji, 2007).

One-way managers could assess team performance is through use of performance measures. Singh and Mucherji, (2007) spoke about how it is better to have some form of performance measure than none. The type and purpose of the measures should be fit for the service goals but also the team members personal and team goals. However, it must be noted that acknowledgement of a team's successful outcomes alone may not be enough. Service leads should consider accompanying expressions of valuing their team with practical measures too which include evaluations of adequate pay, training, and providing resources. This hope was also expressed by some of our participants who felt sometimes during the pandemic, approach of leaders felt tokenistic.

Our findings like Bhome et al., (2021) and Sheridan Rains et al., (2021) suggest staff have found benefits of VW and would like for some of the aspects to remain post-pandemic. Therefore prior to making definite decisions specially following the government's decision for all to return to work, team leaders should consult with team members to highlight aspects they would like to keep and to then support them in accessing this (e.g., maintenance of virtual MDT meetings).

Having spoken with NHS colleagues about the outcomes of this study, many have spoken about how much they relate to the results, and they have expressed how to take this to their teams. Therefore, teams could consider sharing the outcomes of this study with their teams (e.g., in a reflective space or a focus group) to provide opportunities for staff to share

their experiences. They should also be provided the opportunity to share whether these results relate to their teams and if so, which aspects should be considered by team leaders and service providers. In other words, the outcome of this study and information from the literature reviews can be used to initiate discussions. Teams could then use a five-point Likert scale ranging from "not relevant" to "extremely relevant" against each common theme to identify if and how much each team member may relate to findings and experiences of other NHS staff. This is based on the quantitative survey approach used by Johnson et al., (2020).

5.5.10. Recommendations from our participants

Whilst it is important to identify strategies based on empirical theories and findings, the voice of populations we access are essential. Therefore, this section shares some of the recommendations our participants wished for us and our readers to know.

In relation to creating spaces for connections, secondary mental health community colleagues who participated in this study recommended:

- Managers to encourage planned social virtual activities.
- Team members to ensure they keep in touch with each other.
- Team building opportunities should be facilitated (e.g., by trainees)
- Ensure some level of physical contact with the team.

In relation to meetings, participants suggested:

- Having smaller numbers in meetings.
- Breaking large groups into smaller work groups (e.g., breakout rooms).
- Encouraging small talk and more personal engagement. This could be through warm-ups. Pre-determined questions were also suggested in contributing to this.
- Introduce virtual working etiquette (e.g., using the mute button, keeping to time, use "hands up" functions).

- Regular briefing meetings to pull things together (can be faster than if face-to-face or reading an e-mail).
- Be mindful of number of virtual meetings. It can be easy to have back-to-back meetings virtually, but this can contribute to burnout.
- Ensure to provide breaks in meetings.

In relation to their environment, participants suggested:

- Virtual working could reduce issues with hot desking (e.g., dirty, and noisy environments).
- Working from home can also allow for changing of temperatures based on preferences.

Recommendations for improving communication tools:

- Ensure recommended platforms consist of functions that the team require.
- Provide training to improve IT skills. Training could also save time spent on fixing or understanding technology.
- Have an IT champion in teams.
- Improve internet connectivity.

In relation to wellbeing, participants suggested:

- Consider individual factors (e.g., some people may prefer and benefit from working from home)
- Working from home could encourage taking a lunch break, something that office work pressures and time restraints may not allow.
- Trusts and services to continue introducing mental health support.
- Virtual working can help with the work life balance.
- When suggesting well-being activities, teams should ensure this is not tokenistic (e.g., free lunches, gifts, NHS badges and letters).

- Reflective spaces could be beneficial specially during challenging times (e.g., living through a pandemic).

Further recommendations for managers/ leaders included:

- Dedicating an hour or two per month, during work hours for staff to take a break. Especially when so much time can be spent in front of the screen working.
- Providing opportunities for anonymous feedback.
- Where virtual working can save money, identify with the team where that money should be spent.
- Allow for flexible working. This can support staff well-being.
- Consider hybrid ways of working.
- Virtual working did not reduce demands on services. Provide support for team members to manage the rising demands.
- Make sure your employees feel trusted by you.

Other suggestions by participants:

- There should be a shift in the narrative of "qualified" vs "unqualified". This could lead to some people feeling "less than".

5.5.11. Brief Summary

Overall, we have identified that virtual working could help with several challenges NHS community staff may face such as lack of desk space, travel costs and issues with parking costs and parking spaces. Additionally, with the huge financial challenges the NHS has faced because of the pandemic, if VW can reduce some costs, further consideration needs to be made regarding how to ensure the initiation and maintenance of factors such as cohesion and trust. If, VW can help MDT effectiveness, this can also help better outcomes for staff, including better job satisfaction and reduced burnout (a concern within the NHS)

and clients (e.g., better safety and care). Therefore, clinical implications of this study, as discussed in this chapter could be beneficial.

5.6. Suggestion for Future Research

This study has been a starting point in exploring the possible impact of virtual working during the pandemic for secondary mental health workers. However, further research is required to continue building on previous and current findings to help us support more effective virtual or hybrid MDTs.

Regarding sampling, first, it must be acknowledged that health care is much more than secondary mental health services within the NHS. This would include primary, inpatient NHS services as well as private sector teams. Second, the NHS is a very large sector therefore the sample population of this study is extremely limited for generalisations when considering the target population. Therefore, future studies should consider replication of this or previous studies with virtual or hybrid teams from different services. They should also expand resources for recruitment for example, future researchers should consider contacting specific NHS teams as well as Research and Development services for distribution of the survey. This could support a wider national sample and possibly more diversity in relation to input factors.

Regarding the design of the study, although much of the previous studies, similar to this research consist of quantitative approaches, qualitative research including interviews with NHS secondary menta health teams could help expand our knowledge of the experiences of COVID virtual teams. One approach could consider the use of this survey design in specific teams with the addition of focus groups or interviews which could allow for some data regarding the team to be used in the future reducing the need for reliance on perceived responses. Additionally, alternative service or client related outcome measures could be used to include other ways of measuring team effectiveness (e.g., client satisfaction

and waiting times). Furthermore, focus on one specific team, could allow for identification and exploration of other factors such as leadership styles which also dominate the research field.

In relation to survey development, when identifying personal demographics, future researchers should consider asking about cultural background. This could help explore whether cultural backgrounds influence the individuals' interactions and so experiences within teams (e.g., their perceived cohesion and team effectiveness). Previous findings suggest that cultural differences can impact teamwork in areas such as team effectiveness and production. For example, Dunkel and Meierewert (2004), found that amongst their German, Austrian, Hungarian, Spanish participants, cultural standards resulted in different patterns of communication that could lead to potential conflict (e.g., how formal/ informal interactions are and punctuality).

In a very multi-cultural country like the UK, knowledge of cultural differences, if shared with team members, could support the development an understanding of certain approaches by team members which could also change perceptions. This approach of identifying and highlighting cultural differences has been found to support the ever growing and successful global virtual teams across many sectors (Zakaria, Yusog and Muton, 2020).

In relation to the measures used, standardised measures for communication should be considered specially as previous studies have identified virtual communication barriers on virtual teams. Furthermore, to support the move towards less inconsistencies in the field of team research, focus must be placed on identifying the most common types of measures used for VTs and the definitions leading them.

In relation to IPO factors discussed in this study, we must acknowledge once again that input factors remain mostly neglected and therefore, further research is required. Additionally, each of the process and output factors within the IPO framework is a multi-

layered concept, highlighting the need to first focus on each factor before identifying barriers and recommendations. Finally, whilst this study identified common process and outcome factors assessed by previous research, other process and outcome factors require attention.

Despite the inconsistency and limited amount of research found in the field of team research, future researchers do not require a complete blank page to start with. There are already extensive amounts of research to consider not just regarding findings of face-to-face team research nut also research including virtual teams even if previous focus has been mainly on global virtual teams or students.

5.7. Concluding remarks

Working as a team has many advantages for service users, team members and services. However, teams, especially virtual teams are very complex and despite years of research, our knowledge of virtual teams remains limited. This study contributes to the goal of adding to the growing literature of team working, specifically, virtual teams and their effectiveness.

To our knowledge, this is one of few studies to focus on the impact of VW during the COVID pandemic on teams. Specifically, this study focused on the impacts on team trust, cohesion, communication, satisfaction, and team effectiveness. This quantitative study has allowed us to present a picture of the experiences of some NHS secondary mental health workers during the pandemic. Additionally, this study contributes to previous findings regarding the negative impact of VW on team processes (e.g., cohesion, trust, and communication) and team outcomes (effectiveness and satisfaction). One of the aims of this study has been for its information to help guide recommendations for returning to face-to-face working as well as exploring recommendations which could support teams when working virtually either full time or partially virtually (hybrid).

In doing so, this study has found that during the pandemic, when working virtually, team trust, cohesion, and satisfaction all significantly reduced. Team effectiveness was also found to reduce although this was not statistically significant. None-the-less, correlational analysis suggested that cohesion, trust, and satisfaction all have a positive relationship with team effectiveness therefore, emphasising the need for interventions to support VTs.

This study also identified gaps in research and suggested areas for possible further research with focus on the impacts of the pandemic on teams. For example, the pandemic did not just bring challenges in relation to VT working, virtual working came alongside other changes including, loss of support from family and non-work friends, loss of connection with humans, financial difficulties, juggling work and home life (e.g., childcare) and job role changes without reviews (to name a few areas requiring further research). Further research could contribute to the growing picture of the true impact of the pandemic in multiple areas of life which then put together, could enhance recommendations.

The reality remains that two years on, we still do not know the true long-term impacts of COVID-19. Whilst research thrived during the pandemic focusing on impact on individuals or front-line physical health or emergency services, there has been less focus on the impact on teams in mental health services. Therefore, services and policymakers must continue prioritising the monitoring and improving of team effectiveness (NHS England, 2015; West and Lyubovnikova 2013). In particular, its MDTs who are a fundamental part of the NHS. Multidisciplinary approaches utilise integration of knowledge, experience and expertise from different disciplines which can support better outcomes for team members, service users and services (Salas, Cooke, and Rosen, 2008; Borrill et al., 2000).

Despite these challenges, this study also highlighted some benefits of virtual working. For example, like previous findings, results of this study found that many participants found that virtual working allowed them to spend less money, have more time in their day when

traveling less and meet easier with internal and external colleagues and services. Additionally, as information technology continues to develop, it can provide newer, more improved platforms, allowing better communication and more opportunities for collaborating with different experts, and bringing people together (Martins, Gilson, and Maynard, 2004).

The good news is that although VT cohesion, trust, satisfaction, and effectiveness have been found to be negatively impacted by VW, findings suggest that establishing, fixing, or maintaining such connections is not impossible, just different. As a result, this provides scope for future research and further exploration of interventions that could support virtual teams specially community mental health teams who are facing more pressures than ever before as a result of the pandemic and the financial crisis.

The NHS MDTs provide and continue to provide mental health care for the nation during a long, unpredictable, challenging period despite facing their own challenges. To promote and strengthen these teams this study has shown that we must examine these teams on an input, process, and output level to understand their experiences to explore ways we could assist them and the communities they support.

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Appendices

Appendix A: Critical Appraisal Tools

1. Quantitative Studies Critical Appraisal Table Using the AXIS Tool

√ = Criteria met X = Criteria not met ? = Cannot tell	Plotnick, Hiltz and Privman (2016)	Lurey and Raisinghani (2001)	Raisiene, Raouano, Varkuleviciute and Stachova (2020)	Lu (2015)	Alsharo, Gregg and Ramirez (2016)	Saafein and Shaykhian (2013)
Introduction						
1. Were the aims/objectives of the study clear?	√	√	√	√	√	√
Methods						
2. Was the study design appropriate for the stated aim(s)?	√	√	√	√	√	√
3. Was the sample size justified?	√	X	√	√	√	√
4. Was the target/reference population clearly defined? (Is it clear who the research was about?)	√	√	√	√	√	√
5. Was the sample frame taken from an appropriate population base so that it closely represented the target/reference population under investigation?	√	√	√	√	?	√
6. Was the selection process likely to select subjects/participants that were representative of the target/reference population under investigation?	X	√	√	X	√	√
7. Were measures undertaken to address and categorise non-responders?	X	√	√	X	√	√
8. Were the risk factor and outcome variables measured appropriate to the aims of the study?	√	√	√	√	√	√

9. Were the risk factor and outcome variables measured correctly using instruments/measurements that had been trialled, piloted or published previously?	√	√	√	√	√	X
10. Is it clear what was used to determined statistical significance and/or precision estimates? (e.g. p-values, confidence intervals)	√	√	√	√	√	√
11. Were the methods (including statistical methods) sufficiently described to enable them to be repeated?	√	√	√	√	√	X
Results						
12. Were the basic data adequately described?	√	√	√	√	√	√
13. Does the response rate raise concerns about non-response bias?	X	√	√	√	√	X
14. If appropriate, was information about non-responders described?	X	√	X	X	√	X
15. Were the results internally consistent?	√	√	√	√	√	?
16. Were the results presented for all the analyses described in the methods?	√	√	√	√	√	√
Discussion						
17. Were the authors' discussions and conclusions justified by the results?	√	√	√	√	√	√
18. Were the limitations of the study discussed?	√	√	√	√	√	X
Other						
19. Were there any funding sources or conflicts of interest that may affect the authors' interpretation of the results?	?	?	√	?	√	?

20. Was ethical approval or consent of participants attained?	√	√	√	√	√	?

2. Qualitative Studies Critical Appraisal Table Using CASP

√ = Criteria met X = Criteria not met ? = Cannot tell/ Unsure/ Not Stated	Kimble (2011)
Was there a clear statement of the aims of the research?	√
Is a qualitative methodology appropriate?	√
Research design appropriate?	?
Recruitment strategy appropriate?	X
Data collected in a way that addressed the research issue?	√
Has the relationship between researcher and participants adequately considered?	?
Ethical issues considered?	√
Data analysis sufficiently rigorous?	√
Clear statement of findings?	√
How valuable is the research?	√

3. Mixed-methods Studies Critical Appraisal Table Using GRAMMS

√ = Criteria met X = Criteria not met ? = Cannot tell	Ehsan, Mirza and Ahmad (2008)	Pangil and Chan (2013)
Describe the justification for using a mixed method approach to the research question	√	√
Describe the design in terms of the purpose, priority, and sequence of methods	√	√
Describe each method in terms of sampling, data collection and analysis	√	√
Describe where integration has occurred, how it has occurred, and who has participated in it	√	X
Describe any limitation of one method associated with the presence of the other method	√	√
Describe any insights gained from mixing or integrating methods	√	X

Appendix B: Ethical Approval Confirmation Form

University of Hertfordshire UH

HEALTH, SCIENCE, ENGINEERING AND TECHNOLOGY ECDA

ETHICS APPROVAL NOTIFICATION

TO	Ladan Saghari
CC	Dr Keith Sullivan
FROM	Dr Simon Trainis, Health, Science, Engineering and Technology ECDA Chair
DATE	12/03/2021

Protocol number: **aLMS/PGT/UH/04454(1)**

Title of study: The Impact of Virtual Working on Perceived Team Effectiveness in Secondary Mental Health Services During the COVID-19 Pandemic

Your application to modify and extend the existing protocol as detailed below has been accepted and approved by the ECDA for your School and includes work undertaken for this study by the named additional workers below:

Modification: Extension of dates of study

General conditions of approval:

Ethics approval has been granted subject to the standard conditions below:

Original protocol: Any conditions relating to the original protocol approval remain and must be complied with.

Permissions: Any necessary permissions for the use of premises/location and accessing participants for your study must be obtained in writing prior to any data collection commencing. Failure to obtain adequate permissions may be considered a breach of this protocol.

External communications: Ensure you quote the UH protocol number and the name of the approving Committee on all paperwork, including recruitment advertisements/online requests, for this study.

Invasive procedures: If your research involves invasive procedures you are required to complete and submit an EC7 Protocol Monitoring Form, and copies of your completed consent paperwork to this ECDA once your study is complete.

Submission: Students must include this Approval Notification with their submission.

Validity:

This approval is valid:

From: 31/03/2021

To: 30/09/2021

Please note:

Failure to comply with the conditions of approval will be considered a breach of protocol and may result in disciplinary action which could include academic penalties.
Additional documentation requested as a condition of this approval protocol may be submitted via your supervisor to the Ethics Clerks as it becomes available. All documentation relating to this study, including the information/documents noted in the conditions above, must be available for your supervisor at the time of submitting your work so that they are able to confirm that you have complied with this protocol.

Should you amend any aspect of your research or wish to apply for an extension to your study you will need your supervisor's approval (if you are a student) and must complete and submit form EC2.
Approval applies specifically to the research study/methodology and timings as detailed in your Form EC1A. In cases where the amendments to the original study are deemed to be substantial, a new Form EC1A may need to be completed prior to the study being undertaken.

Failure to report adverse circumstance/s may be considered misconduct.
Should adverse circumstances arise during this study such as physical reaction/harm, mental/emotional harm, intrusion of privacy or breach of confidentiality this must be reported to the approving Committee immediately.

Appendix C: Research Advert

HAS VIRTUAL WORKING IMPACTED YOUR TEAM?

Do you work in a multidisciplinary community mental health service?
Have you been working in the same team since before the pandemic?

WE WANT TO HEAR FROM YOU!

Anyone from a multidisciplinary team is invited to take part!
(e.g. administrators, managers, psychologists, nurses, psychiatrists, social workers, art therapists…)

We want to explore the impact of virtual working on teams during the pandemic.
Participation will be through completing a short anonymous 15 – 20 minute survey.

https://herts.eu.qualtrics.com/jfe/form/SV_0pnI6B9sWLfGfY2

SCAN ME!

For questions please e-mail:
ls13ach@herts.ac.uk

Ladan Saghari
(Trainee Clinical Psychologist)
Dr Barbara Mason
(Consultant Clinical Psychologist)
Dr Keith Sullivan
(Senior Research Fellow)

This study has been approved by University of Hertfordshire Health, Science, Engineering & Technology ECDA Ethics Committee (LMS/PGT/UK/04454)

University of Hertfordshire UH Ethics Committee

Appendix D: Survey Eligibility Page

The Impact of Virtual Working on Perceived Team Effectiveness in Secondary Mental Health Services During the COVID-19 Pandemic

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Are you eligible to take part? (Please select all that apply)

- ☐ I am aged 18 years and above
- ☐ I do not work in an inpatient, forensic or crisis resolution team
- ☐ I am currently working full-time or part time within an NHS community secondary mental health service (e.g. CMHT, CAMHS, Community Learning Disabilities Services)
- ☐ I was working in the same team before and during the pandemic
- ☐ I am part of a multidisciplinary team (MDT). This refers to a team which consists of 3 or more disciplines (e.g. Psychologists, Psychiatrists, Nurses)
- ☐ My team and I have worked together virtually or partially virtually (both virtually and face-to-face) during the pandemic

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If you have not ticked all of these boxes, this indicates that at this time, you are not eligible to take part in this Survey. However, if you know someone who may be eligible, please forward this survey link to them

If you have selected all of the boxes, please continue on to the survey.

Appendix E: Survey Information Page

Information Page

What is the purpose of the study?
This study is being completed as part of a Doctorate in Clinical Psychology (DClinPsy) thesis at University of Hertfordshire. The purpose of this survey is to gather some information about the impact of virtual working (also known as remote working) or partially virtual working on teams during the COVID-19 pandemic. Virtual working refers to working in a location geographically away from your team using technology such as video conferencing. Partially virtual working refers to a mixture of both face-to-face and virtual ways of working. The findings of this survey will help us explore what has and what has not helped secondary mental health teams when working virtually/ partially virtually during the pandemic. This will further help us understand and think about virtual teams in the future.

What does the research involve?
We will ask participants to complete an online Survey. The survey should take approximately 15-20 minutes to complete. If you decide to participate, you will proceed to a series of survey questions, most of which are multiple choice questions.

What are the possible benefits of taking part?
By completing the survey you will contribute to developing knowledge and understanding of how teams work under conditions of virtual or partial virtual working.

What are the possible disadvantages of taking part?
It is not anticipated that you will experience any emotional ill effects from taking part in the survey. However, a list of possible sources of support has been provided at the end of the survey should you require them.

Do I have to take part in the study?
No, participation is entirely voluntary. Whether you decide to participate or not, there will be no impact on your work or employment. You can withdraw at any point during the survey and up to two weeks following completion without having to offer any explanation.

How will my information be kept confidential?
The survey is anonymous and your answers will form part of a larger data set. You will not be required to provide any personal identifying information about yourself, your team or organisation. The anonymous data will be safely stored on a protected server and an encrypted storage device. The data will be stored securely for five years and it will only be accessible to the researchers of this study.

How will the data be used?
Once the data has been collected, the researchers will analyse the data to explore the views and responses of participants, and how different factors may impact teams when working virtually or partially virtually. The analysis will feature in the write up of the Chief

Investigator's Major Research Project as part of their Doctoral research in Clinical Psychology. A version of this write up will be submitted for publication in journals.

Who has reviewed this study?
his study has been approved by University of Hertfordshire Health, Science, Engineering & Technology ECDA Ethics Committee (LMS/PGT/UH/04454).

Thank you for taking the time to read this information
If you have any questions or concerns about how the study has been conducted, please contact:

Ladan Saghari
Chief Investigator
ls13ach@herts.ac.uk
Dr Keith Sullivan
Principle Research Supervisor
k.sullivan3@herts.ac.uk
Dr Barbara Mason
Field Research Supervisor
barbara.mason2@nhs.net

Appendix F: Survey Consent Page

Consent

Please select all that apply

☐ I have read and understood the participant information sheet.

☐ I am aware that I can withdraw at any point during the questionnaire and up to two weeks following completion without having to offer any explanation.

☐ I understand that the information I provide will be anonymous and kept securely on a protected server and on an encrypted storage device. Only the Chief Investigator and Principal Research Supervisors will have access to the data. This data will be stored for up to 5 years.

☐ I agree that I have understood the comments above and give my consent to take part in the study.

(optional) Please create an anonymised personal ID for yourself. This can be anything of your choosing. This will be used if you later wish to withdraw from the study.

_____

Appendix G: Survey Section One

About You

What gender do you identify with?

- ○ Female
- ○ Male
- ○ Prefer not to say
- ○ Prefer to self-describe
- ○ Other (please specify): _____

How old are you?

- ○ 18 - 20
- ○ 21 - 30
- ○ 31 - 40
- ○ 41 - 50
- ○ 51 - 65
- ○ 66 +

What ethnicity do you identify with?

- ○ White (e.g. British/ Irish)
- ○ Any other White Background (Please Specify)

_____

- ○ Black/ Black British (e.g. Caribbean, African)
- ○ Any other Black Background (Please Specify)

_____

- ○ Asian/ Asian British (e.g. Indian, Pakistani, Bangladeshi)
- ○ Any other Asian Background (Please Specify)

_____

- ○ Mixed (e.g. White and Black Caribbean, White and Asian)
- ○ Any other Mixed/ Multiple Ethnic Background (Please Specify)

_____

- ○ Other Ethnic Background (Please Specify)

_____

What is your occupational group?

Allied Health professionals/ Healthcare Scientists/ Scientific and Technical

- ○ Art Therapies (e.g. art, music, drama)
- ○ Clinical Psychology
- ○ Counselling Psychology
- ○ Occupational Therapy
- ○ Psychotherapy
- ○ Support Worker
- ○ Speech and Language Therapy
- ○ Other qualified Allied Health Professionals (e.g. Physiotherapy, Dietetics)
- ○ Support to Allied Health professionals (e.g. Therapy Helper, Therapy assistant, Assistant Psychologist)

Nursing

- ○ Adult/ General
- ○ Mental Health
- ○ Learning Disabilities
- ○ Children
- ○ Health Visitor
- ○ Health Care Assistant
- ○ Nursing assistant/ healthcare assistant/ Student nurse

Social Care

- ○ Social Work

General Management

- ○ Management (If you are a manager and can choose a group from elsewhere in the list please also select that other occupational group)

Medical

- ○ Psychiatry
- ○ Junior Doctor

Wider Healthcare Team

- ○ Admin & Clerical

Other Occupational Group (Please Specify)

_____

Where do you currently work?

- ○ South East England
- ○ South West England
- ○ Greater London
- ○ East of England/ East Anglia
- ○ East Midlands
- ○ West Midlands
- ○ Wales
- ○ Yorkshire and the Humber
- ○ North East England
- ○ North West England
- ○ Scotland
- ○ Ireland
- ○ Prefer not to say

What is your NHS staff pay banding?

- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6
- ○ 7
- ○ 8a
- ○ 8b
- ○ 8c
- ○ 9
- ○ N/A
- ○ Other (please specify): _____

How many years have you worked within the NHS?

- ○ Less than 1 year
- ○ 1 - 2
- ○ 3 - 5
- ○ 6 - 10
- ○ 11 - 15
- ○ More than 15 years

How many years have you worked in your current team?

- ○ Less than 1 year
- ○ 1 - 2
- ○ 3 - 5
- ○ 6 - 10
- ○ 11 - 15
- ○ More than 15 years

Do you work part time or full time in your current team?

- ○ Full Time
- ○ Part Time

Appendix H: Survey Section 2

About Your Job

What setting do you currently work in?

- ○ Adult Mental Health Services
- ○ Services for People with Intellectual Disabilities (Adult)
- ○ Child and Adolescent Mental Health Services
- ○ Mental Health Services for Older People (incl. frailty and dementia services)
- ○ Other (please specify): _____
- ○ Services for LD - Child

Roughly, how many members work within your team?

- ○ 3 - 5
- ○ 6 - 9
- ○ 10 - 15
- ○ 16 - 20
- ○ 21 - 25
- ○ 26 +

Prior to the pandemic, what were your workspace arrangements?

- ☐ Discipline specific office (e.g. Psychology office, Admin office)
- ☐ Shared, open plan office
- ☐ Own office
- ☐ Other (please specify):

_____

Prior to the pandemic

	Not Applicable	Daily	Once a week	More than once a week	Less than once a month	Once a month	More than once a month
1. Prior to the pandemic, how often did you meet with your team for multidisciplinary team (MDT) meetings to conduct routine business?	○	○	○	○	○	○	○
2. Prior to the pandemic, how often did you attend meetings only for your own discipline (e.g. admin or psychology only meetings)?	○	○	○	○	○	○	○
3. Prior to the pandemic, how often did you attend meetings not just for your local team? (e.g. Meetings with other linked services)	○	○	○	○	○	○	○
4. Prior to the pandemic, how often did you meet with your team to engage in wellbeing/ team building/ informal/ none-business/ social activities?	○	○	○	○	○	○	○

Prior to the pandemic, what types of activities (if any) did you usually engage in (in relation to wellbeing/ team building/ informal/ none-business/ social activities)?

_____

The next few questions are about your experiences of working Virtually

Prior to the pandemic, in a working week, approximately, what percentage of your work was conducted face-to-face with colleagues and what percentage of your work was conducted virtually with colleagues?

	Primarily (80% +)	Often (60 - 80%)	Some of the time (40 - 60%)	Occasionally (20-40%)	Seldom (0 - 20%)
Face-to-face	○	○	○	○	○
Virtually	○	○	○	○	○

During the pandemic

	Never/ Not Applicable	Daily	Once a week	More than once a week	Less than once a month	Once a month	More than once a month
1. During the pandemic, how often did you meet your team virtually for MDT meetings to conduct routine business?	○	○	○	○	○	○	○
2. During the pandemic, how often did you attend virtual meetings only for your own discipline? (e.g. admin or psychology only meetings)?	○	○	○	○	○	○	○
3. During the pandemic, how often did you attend meetings not just for your team? (e.g. Meetings with other linked services)	○	○	○	○	○	○	○
4. During the pandemic, how often did you meet with your team to engage in wellbeing/ team building/ informal/ none-business/ social activities?	○	○	○	○	○	○	○

During the pandemic, what types of activities (if any) have you engaged in (in relation to wellbeing/ team building/ informal/ none-business/ social activities)?

_____

During the pandemic, in a working week, what percentage of your work was conducted face-to-face and what percentage of your work was conducted virtually?

	Primarily (80% +)	Often (60 - 80%)	Some of the time (40 - 60%)	Occasionally (20 - 40%)	Seldom (0 - 20%)
Face-to-face	○	○	○	○	○
Virtually	○	○	○	○	○

Appendix I: Survey Section Three

Virtual Working

During the pandemic, of the platforms used when working virtually, how satisfied were you with them?

Please rate each of the platforms that you used (0 = not satisfied, 10 = very satisfied)

	N/A	Very Dissatisfied 0	1	2	3	4	5	6	7	8	9	Very Satisfied 10
Telephone calls												
Zoom												
Microsoft Teams												
WebEx												
Whatsapp												
NHS Whatsapp (Pando)												
E-mails												

Other (Please Specify):

_____

For the next few questions, please tell us how much you agree/ disagree with each statement

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. I felt that my service provided me with enough support on how to use different virtual platforms for communication.	○	○	○	○	○
2. Before the pandemic, I had access to all the equipment I needed to perform my work.	○	○	○	○	○
3. During the pandemic, I had access to all the equipment I needed to perform my work.	○	○	○	○	○

Appendix J: Survey Section Four

Your Experiences with your Team

For the next few questions, please tell us how much you agree/ disagree with each statement

Before the Pandemic

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Before the pandemic, I felt I belonged to this team.	○	○	○	○	○
2. Before the pandemic, I felt happy to be part of this team.	○	○	○	○	○
3. Before the pandemic, I saw myself as part of this team.	○	○	○	○	○
4. Before the pandemic, this team was one of the best anywhere.	○	○	○	○	○
5. Before the pandemic, I felt that I was a member of this team.	○	○	○	○	○
6. Before the pandemic, I felt content to be part of this team.	○	○	○	○	○

During the Pandemic

	Strongly Agree	Agree	Neutral	Disagree	>Strongly Disagree
1. During the pandemic, I have felt I belonged to this team	○	○	○	○	○
2. During the pandemic, I felt happy to be part of this team.	○	○	○	○	○
3. During the pandemic, I saw myself as part of this team.	○	○	○	○	○
4. During the pandemic, this team was one of the best anywhere.	○	○	○	○	○
5. During the pandemic I felt that I was a member of this team.	○	○	○	○	○
6. During the pandemic, I felt content to be part of this team.	○	○	○	○	○

Appendix K: Survey Section Five

Your Experiences Continued

For the next few questions, please tell us how much you agree/ disagree with each statement

Before the Pandemic

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Before the pandemic, overall, the people in my team were very trustworthy	○	○	○	○	○
2. Before the pandemic, we were usually considerate of one another's feelings on this team	○	○	○	○	○
3. Before the pandemic, the people in my team were friendly	○	○	○	○	○
4. Before the pandemic, I could rely on those with whom I worked in my team	○	○	○	○	○
5. Before the pandemic, overall, the people in my team were very trustworthy	○	○	○	○	○

During the pandemic

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. During the pandemic, overall, the people in my team have been very trustworthy	○	○	○	○	○
2. During the pandemic, we have been considerate of one another's feelings on this team	○	○	○	○	○
3. During the pandemic, the people in my team have been friendly	○	○	○	○	○
4. During the pandemic, I have been able to rely on those with whom I work with	○	○	○	○	○
5. During the pandemic, overall, the people in my team have been very trustworthy	○	○	○	○	○

Appendix L: Survey Section Six

How well your team works

For the next few questions, please tell us how much you agree/ disagree with each statement

Before the pandemic

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Before the pandemic my team was effective in getting things done	○	○	○	○	○
2. Before the pandemic my team did a great job in getting things done	○	○	○	○	○
3. Before the pandemic my team was effective in meeting task requirements	○	○	○	○	○
4. Before the pandemic my team accomplished its goals successfully	○	○	○	○	○
5. Before the pandemic my team completed its tasks successfully	○	○	○	○	○

During the pandemic

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. During the pandemic my team has been effective in getting things done	○	○	○	○	○
2. During the pandemic my team has done a great job in getting things done	○	○	○	○	○
3. During the pandemic, my team has been effective in meeting task requirements	○	○	○	○	○
4. During the pandemic my team has accomplished its goals successfully	○	○	○	○	○
5. During the pandemic my team has completed its tasks successfully	○	○	○	○	○

Appendix M: Survey Section Seven

Final Reflections on Virtual Working

Please answer each question on a scale of 0 - 10 (0 = very dissatisfied and 10 = very satisfied)

	Very Dissatisfied 0	1	2	3	4	5	6	7	8	9	Very Satisfied 10
1. Before the pandemic, how satisfied were you with your team?											
2. Before the pandemic, how satisfied were you with your job?											
3. During the pandemic, how satisfied were you with your team?											
4. During the pandemic, how satisfied were you with your job?											

Based on your experiences, what are the challenges of being in a virtual team?

Based on your experiences, what are the benefits of being in a virtual team?

After the pandemic, are there any aspects of virtual working that you would like to keep in your team?

Please use this space to describe in your own words, anything else that you feel would be helpful for us to know in terms of helping teams function effectively when working virtually.

THE END
Thank you for participating in this study
Please click next to read more about this study in our debrief page

Appendix N: Survey Debrief Page

Debrief

The Impact of Virtual Working on Perceived Team Effectiveness in Secondary Mental Health Services During the COVID-19 Pandemic

Thank you for taking part in this study

The full details and aims of this study were not provided for you at the start because more information could have influenced the responses you provided

Aims of the study

This study aims to explore the impacts of virtual or partially virtual working on multidisciplinary (MDT) teams in NHS community secondary mental health services during the COVID-19 pandemic. By exploring this, we hope that our findings can help increase our understanding of virtual or partially virtual teams and their perceived team effectiveness.

Limited previous research has found that a variety of team factors can impact on team effectiveness. For example, team cohesion, job satisfaction, team trust, knowledge sharing and communication methods have all been found to contribute to a teams effectiveness. This means that these factors can contribute to outcomes for a team and their service users.

However, when working virtually, research has have previously found team cohesion and trust to be diminished, job satisfaction to be poor, and team members communicate less with each other. Therefore, these factors can sometimes result in poor team outcomes and effectiveness. With many services working virtually due to the pandemic, it is important for us to understand how this way of working may impact on team effectiveness. This is because poor team effectiveness has been associated with negative impacts for both staff (e.g. poor wellbeing and job satisfaction) and clients.

How was this measured

In this study you were asked several questions about you and your team. This will help us see what demographics about you or your team (e.g. methods and frequency of communication) may impact on your perceived team effectiveness. Finally, you answered some questionnaires that will help us understand your perceived team cohesion, trust, team effectiveness, job satisfaction and your experiences of working virtually or partially virtually prior and during the pandemic.

What are our hypotheses

- We expect that when perceived team cohesion and perceived team trust is low, perceived team effectiveness will also be low.
- We would also expect that if there is little or too much communication in your team, this will impact your team cohesion, team trust and team effectiveness.
- We also expect that if team cohesion and trust are diminished, you will be less satisfied with your job which will reduce your perceived team effectiveness.

What if I no longer want to participate?

The responses you have provided are all anonymous and confidential. If you no longer wish to participate in this survey, please contact the researchers up to two weeks following the completion of the survey. This will then allow us to remove your data from the overall data set.

What if I need some help?

This survey required you to reflect on your own and your teams' experiences of virtual working during the COVID-19 pandemic. We understand that such reflections may have an impact on some people.

- In this scenario, you can contact the researchers of this study if you have any concerns or questions.
- In relation to your wellbeing and concerns about your work or your team, we have provided a list of some services recommended by the NHS website which you may wish to contact.

Services:

- Contact your trusted work seniors
- Contact your Occupational Health Services
- Contact your GP who can make referrals and advice on local services available such as counselling and therapy.
- Additionally, you can access the following NHS England recommended services for COVID-19, work related stress and Mental Health difficulties. **For a full list of services you can visit www.people.nhs.uk**
- Free wellbeing support helpline for NHS staff
  0300 131 7000
  7am – 11pm
  Monday – Sunday
- 24/7 text service
  Text FRONTLINE to 85258
- You can also visit nhsempoloyers.org where you can access an online portal for peer-to-peer, team and personal support.
- Every Mind Matters – www.nhs.uk/oneyou/every-mind-matters/
- MIND.org.uk
- CALM (for men) – thecalmzone.net
- Mental Health Foundation – mentalhealth.org.uk
- Samaritans – call 116 123 (FREE service)

Chief Investigator
Ladan Saghari
ls13ach@herts.ac.uk

Principal Research Supervisor
Dr Keith Sullivan
University of Hertfordshire
K.sullivan3@herts.ac.uk

Field Research Supervisor
Dr Barbara Mason
barbara.mason2@nhs.net

What if I want to know more?

If you would like the results of the study once it has been completed, please provide your e-mail address below. Your e-mail address will only be used by the researchers to provide feedback of the results after completion.