

Saint Petersburg State University
Graduate School of Management

MASTER THESIS

**How Social and Cultural Processes Shape Collaboration in China: A Study of
Gender Dynamics in Chinese Virtual Teams**

Done by

2nd year MIM student

Yao Kewei

Scientific advisor:

Senior Lecturer, Department of Organizational Behavior and Personnel Management

Andrey Zamulin

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ЗАЯВЛЕНИЕ О САМОСТОЯТЕЛЬНОМ ХАРАКТЕРЕ ВЫПОЛНЕНИЯ ВЫПУСКНОЙ КВАЛИФИКАЦИОННОЙ РАБОТЫ

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ABSTRACT

Master Student's Name	YAO Kewei
Academic Advisor's Name	Andrey Zamulin
Master Thesis Title	How Social and Cultural Processes Shape Collaboration in China: A Study of Gender Dynamics in Chinese Virtual Teams
Description of the goal, tasks and main results the research	<p>This qualitative study examines how gender dynamics shape collaboration Chinese virtual teams. The findings will provide insights into how deeply rooted cultural values around gender are adapted, upheld, or challenged in virtual environments that afford more flexibility in social interaction.</p> <p>The results showed that, gender stereotypes are common in virtual teams and often stem from biases in hiring and management. With lack of effective regulation and laws, and missing function from trade union, the situation between employees and companies in China is imbalanced, females are in a much weaker position than other countries. On the other hand, over time, as a unique feature of virtual teams, virtuality could create "gender blur" effect, which could improve the effectiveness of collaboration.</p>
Keywords	Virtual teams, Gender Dynamics, Gender stereotypes, Gender blur, Communication, Collaboration

АННОТАЦИЯ

Автор	Яо Кэвэй
Научный руководитель	Замулин Андрей Леонидович
Название ВКР	Как социальные и культурные процессы формируют сотрудничество в Китае: исследование гендерной динамики в китайских виртуальных командах
Описание цели, задач и основных результатов исследования	<p>В этом качественном исследовании изучается, как гендерная динамика влияет на взаимодействие китайских виртуальных команд. Полученные данные позволяют понять, насколько глубоко укоренившиеся культурные ценности, связанные с полом, адаптируются, поддерживаются или оспариваются в виртуальной среде, которая обеспечивает большую гибкость в социальном взаимодействии.</p> <p>Результаты показали, что гендерные стереотипы распространены в виртуальных командах и часто возникают из-за предубеждений при найме и управлении. Из-за отсутствия эффективного регулирования и законов, а также отсутствия функций профсоюзов ситуация между работниками и компаниями в Китае несбалансирована, женщины находятся в гораздо более слабом положении, чем в других странах. С другой стороны, со временем, как уникальная особенность виртуальных команд, виртуальность может создавать эффект «гендерного размытия», что может повысить эффективность совместной работы.</p>
Ключевые слова	Виртуальные команды, Гендерная динамика, Гендерные стереотипы, Гендерное размытие, Коммуникация, Сотрудничество

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INTRODUCTION

Virtual teams have grown increasingly common. Compared to collocated teams, virtual teams differ substantially in communication methods, scheduling, management practices, and more as they rely on technology instead of face-to-face interaction.

With high-speed development, China's economic growth and social changes, including an increase in women's workforce participation and education levels, it is leading to a shift in gender roles and dynamics. It creates an opportunity to explore how social and cultural processes related to gender shape collaborative behavior in Chinese virtual teams.

In China, cultural traditions of male dominance conflict with fair participation in collocated teams, yet gender dynamics are evolving as women gain influence. As women gain greater power and influence in society, however, gender dynamics are evolving in complex ways. With the features of virtual teams, it is worthy exploring gender dynamics in distanced teams. Consequently, there is a need to examine how these changing gender norms affect virtual team collaboration in China specifically.

Existing literature largely reflects Western cultural contexts, ignoring complex realities of global collaboration in non-Western societies. Considering the features of working environment in China, especially for some negative factors, like overtime work, gender stereotypes, barriers in communications, lack of exercise of power by trade unions, etc., it is valuable for identifying related key issues in social and cultural processes in Chinese virtual teams.

There is a need to better understand gender relations and barriers to women's advancement in China's sociocultural context. Pervasive stereotypes and the societal value placed on traditional gender roles continue to limit opportunities for women. At the same time, virtual work opens possibilities for more flexible and equitable participation across groups.

Meanwhile, companies in China struggle with management practices ill-suited to current realities. Widespread complaints on social media point to toxic work cultures, discrimination against women, excessive overtime demands, and more. For virtual teams, lack of boundaries

and constant availability pose risks of burnout, work-life conflict, and turnover. With the traditional gender stereotypes in Chinese society, most females carry more responsibility in housework, child-care, etc., which leave negative impact on their work and feelings.

This research examines how social and cultural processes shape experiences within Chinese virtual teams. As one of the largest economies in the world, China has become an essential player in global collaborations. Effective participation in international virtual teams can provide organizations with competitive advantages. For these reasons, it is important to understand the collaboration and related issues in Chinese virtual teams.

With the growth of information and communication technologies enabling new models of distributed work worldwide, virtual team effectiveness is an increasingly important area of focus. This research aims to extend existing theory and provide evidence-based guidance. Addressing the challenges of gender, environment, and management practices in China offers lessons for global organizations working across cultures in the digital age.

Overall, this research addresses critical gaps at the intersection of gender, culture, and management in China. There is a shortage of empirical work examining the influence of sociocultural context on virtual teams. The findings offer theoretical insights into how social identity and relational demography operate in virtual environments across cultures. Practical implications point to strategies for overcoming systemic barriers and biases to promote inclusion, wellbeing, and high performance in global work arrangements.

This research adopts a qualitative approach to gain an in-depth understanding of experiences within Chinese virtual teams. 10 respondents are selected with certain criteria to participate semi-structured interviews, to reflect the realistic situation in Chinese virtual teams among industries which rely on the application of virtual work environment. With content analysis, the research will identify the key issues of social and cultural processes in Chinese virtual teams, to explore the direction to improve the team collaboration and employee perception.

CHAPTER 1. GENDER DYNAMICS IN CHINESE VIRTUAL TEAMS: THEORIES AND BACKGROUND

1.1. Research Goal and Tasks

This qualitative study explores how cultural values and gender dynamics shape virtual team collaboration in China. It applies four theories—Social Identity Theory, Social Role Theory, Relational Demography Theory, and Self-Categorization Theory—to identify key issues that impact relationships, participation, and effectiveness in Chinese virtual teams.

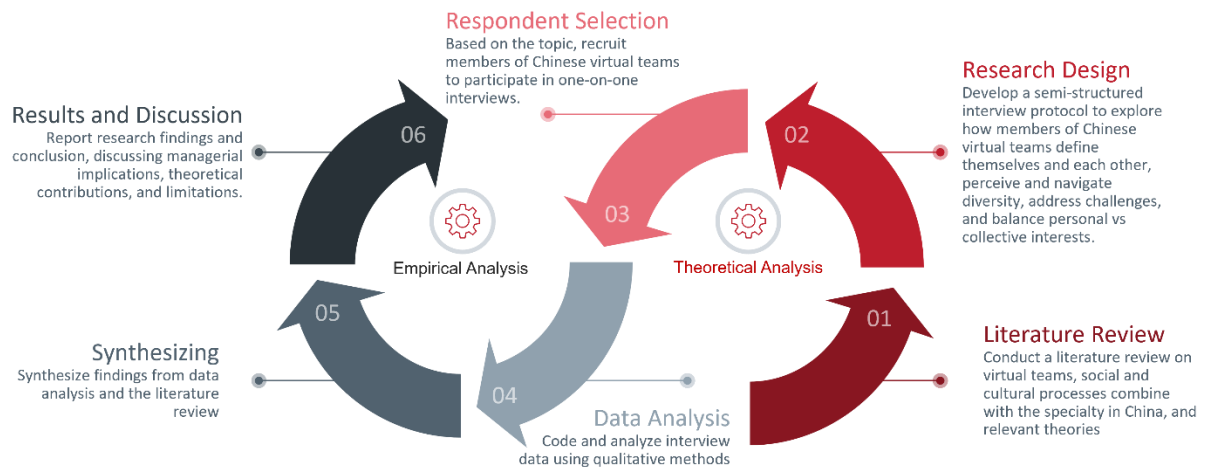
The research examines how traditional gender roles and demographic attributes interact with processes of social identification and categorization in the Chinese cultural context. Semi-structured interviews will explore how team members define themselves and each other, perceive diversity in team composition, and prioritize personal vs collective interests during disagreements.

The findings will provide insights into how deeply rooted cultural values around gender are adapted, upheld, or challenged in virtual environments that afford more flexibility in social interaction.

The overarching goal of this research is to gain insights into how gender dynamics shape collaboration in Chinese virtual teams. Specifically, the study mainly explores:

- RQ1: Identify key issues that influence gender dynamics in collaboration in Chinese virtual teams.
- RQ2: How do cultural values around traditional gender roles impact Chinese virtual teams?

The following key tasks will be undertaken to achieve the research goals:



- Conduct a literature review on virtual teams, social and cultural processes combine with the features in China, and relevant theories like Social Identity Theory, Social Role Theory, Relational Demography Theory, and Self-Categorization Theory.
- Develop a semi-structured interview protocol to explore how members of Chinese virtual teams define themselves and each other, perceive and navigate diversity, address challenges, and balance personal vs collective interests.
- Based on the topic, recruit members of Chinese virtual teams to participate in one-on-one interviews.
- Code and analyze interview data using qualitative methods to identify key themes, patterns, and relationships across participants' experiences and insights.
- Synthesize findings from data analysis and the literature review.
- Report research findings and conclusion, discussing managerial implications, theoretical contributions, and limitations.

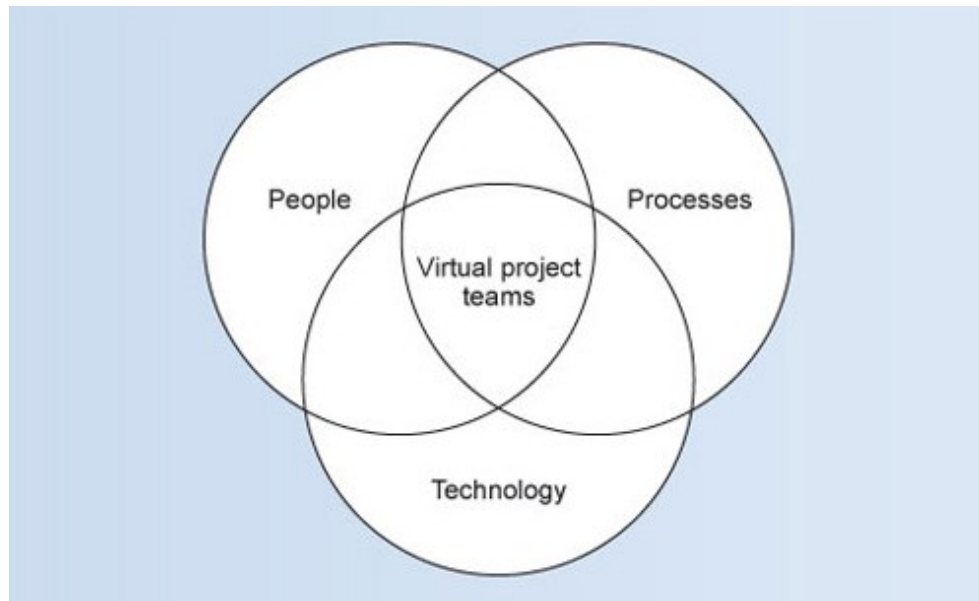
1.2. Theoretical Background

1.2.1. Virtual Teams

In 1997, Lipnack and Stamps defined virtual teams as “a group of people who interact through interdependent tasks guided by a common purpose that works across space, time and organizational boundaries with links strengthened by webs of communication technologies” [1]. Also, in 1999, Jarvenpaa and Leidner defined global virtual teams as “temporary, culturally diverse, geographically dispersed, electronically communicating work group[s]” [2].

These definitions focused on key attributes of virtual teams including geographic dispersion, electronic dependence, and distant collaboration centered on a shared purpose [3][4]. As global organizations increasingly adopt virtual partnerships to leverage worldwide expertise, definitions have expanded to emphasize cultural diversity, limited face-to-face interaction, temporal dispersion, and reliance on technology [5].

While traditional teams collaborate in face-to-face interaction, virtual teams utilize technology to enable cooperation across distances [6][7]. As Coleman and Levine noted, virtual teams integrate people, processes, and technology [8]. Compared to traditional teams, virtual teams differ substantially in communication methods, scheduling, and management practices [9].



Definition of Virtual Project Teams by Coleman and Levine [8]

Contemporary virtual teams take many forms including project teams, self-directed work units, communities of practice, and more[10][11]. They are employed for both short-term objectives as well as long-term initiatives, allowing global organizations to draw on expertise regardless of geography [12]. However, the cultural, social, and physical separation inherent to virtuality also introduces challenges that require adapted practices and models of collaboration to achieve effectiveness [13]. Effective dynamics and outcomes in Chinese virtual teams emerge where members generate inclusive understanding and sustainable partnership.

1.2.2.Virtual Team Performance

To explore the effectiveness of collaboration in virtual teams, it is necessary to analyze performance. Evaluating performance in virtual teams requires models that account for competencies beyond technical skills and knowledge. Krumm et al. applied the “Great Eight” competency model, which includes leading, supporting, interacting, analyzing, creating, organizing, adapting, and risk-taking [5]. They found that leading, deciding, analyzing, and interpreting was significantly more important for virtual versus traditional teams. Interacting and presenting were also crucial, specifically the ability to communicate ideas clearly.

Trust is essential for performance in virtual teams [14][15][16]. Trust had indirect effects on performance through goal setting and cohesion [14]. Breuer et al. identified five categories of perceived trustworthiness (ability, benevolence, predictability, integrity, transparency) that shape risk-taking behaviors (disclosure, reliance, contact-seeking), impacting performance [15]. Also, trust indirectly affects performance through knowledge sharing [16].

Leadership is another key factor, with both direct and indirect impacts on performance [17][18][19]. Team virtuality and network density moderated leadership emergence [17]. Shared leadership indirectly enhanced performance through trust, autonomy, and satisfaction [18]. Empowering leadership improved performance for dispersed teams with good situational judgement [19].

Technology significantly influences knowledge sharing and performance in virtual teams [20]. Davidavičienė et al. examined how culture, motivation, leadership, trust, ICT, language, and conflict affected knowledge sharing. Technology capabilities and barriers shape how virtual teams develop relationships, communicate, and collaborate [20].

Evaluating self-perceptions and effectiveness can be challenging for virtual teams. There is no link between members' views of leaders' communication and team performance metrics [21]. However, leaders' perceptions of communication did predict members' performance views, showing a disconnect. Trzecieliński and Wypych-Zołtowska proposed a cost-based model to evaluate virtual team effectiveness using factors like ICT selection, training, meetings, and performance management [22].

In summary, key drivers of virtual team performance include competencies, trust, leadership, technology, and measurement. Adapted models are needed to capture indirect effects and the complexity of virtual work. Performance depends on relationships and understandings shaped through technology and practices suited to cultural realities, work demands, and team dispersion. Effectiveness appears when human connections forge purpose and shared progress beyond all obstacles.

1.2.3.Virtual Team Processes

Virtual teams rely on communication with the function of technology via software rather than face-to-face interaction to collaborate distantly. So, besides the issues related to ICT, social and cultural factors are crucial in virtual team effectiveness [23]. Key social processes in virtual teams include developing trust, cohesion, and a shared understanding among culturally diverse members [24]. While cultural diversity introduces complex challenges, it also provides opportunities for knowledge sharing and creativity that can enhance team outcomes [25].

As mentioned above, trust is an essential factor for cooperation and information sharing in all teams, but it is more difficult to build in virtual teams because of the lack of face-to-face interactions and visual cues [2]. Cohesion refers to the degree of attraction and shared commitment between members, which is crucial for team performance [26]. Virtual teams with good cohesion would exhibit a sense of solidarity and community, freely share knowledge, and collaborate effectively [27]. Achieving a shared understanding of team goals and processes requires aligning mental models through open communication, which is particularly challenging for virtual teams [28].

Social interactions, relationship building, and cultural understanding are key drivers of virtual team effectiveness [29]. Collaboration in traditional teams assume face-to-face interactions, and virtual teams require tailored practices and interventions to nurture these social and cultural processes [30][31].

Providing opportunities for both task-based and social communication helps members develop cultural understanding and shared mental models [31]. With increasing reliance on global virtual teams, organizations must overcome complex communication and cultural barriers to leverage diversity [23][25].

Overall, trust, cohesion, and shared understanding are the social mechanisms that bind virtual teams together and enable collective goals [24][26][28]. By proactively addressing the interpersonal challenges of virtual work, organizations enhance team and organizational

outcomes [30]. Virtual team effectiveness depends on facilitating relationship building, cultural understanding, and alignment of mental models across geographic and cultural boundaries [29]. Team leaders should nurture these social processes through practices tailored to the virtual context [31].

With distributed collaboration across national boundaries increasingly common, developing knowledge for managing social dynamics and cultures in virtual teams is vital [23]. Virtual teams represent an increasingly common organizational form, highlighting the need to understand the role of social and cultural factors in technology-mediated interaction [23]. By building a theory focused on optimizing virtual team effectiveness, researchers could help organizations break barriers and leverage opportunities in global teams [24][25].

Communication in virtual teams is complicated by challenges including lack of face-to-face interaction, and asynchronous messaging [2][28]. These barriers always require tailored practices to facilitate trust, cohesion, shared understanding, and performance [30][31]. With globalization and advances in communication technology, virtual teams have become a popular organizational form [23]. However, team dynamics theory for traditional teams assumes face-to-face interaction and shared cultural contexts. It means new frameworks are needed to understand social processes and effectiveness in global virtual teams [24][25]. By identifying practices tailored to the virtual context, researchers and practitioners could help organizations overcome the challenges of collaboration at a distance [31].

Overall, the key to optimizing virtual team outcomes is understanding and facilitating the social mechanisms that enable knowledge sharing, cooperation, and performance across geographic boundaries [24][26][29]. Trust, cohesion, and shared mental models represent the social foundations for team effectiveness and require proactive interventions in virtual environments [30][31]. Leaders play a pivotal role in building these team dynamics through communication, relationship development, and aligning values and ways of working [31]. With global virtual teams on the rise, nurturing social connections and shared understanding across distance and cultural diversity represents an imperative for 21st-century organizations [23][25].

1.2.4.Social and Cultural Processes

Social and cultural processes significantly affect virtual teams, as geographic dispersion and electronic dependence reshape human dynamics [32]. Culture refers to “the collective programming of the mind which distinguishes the members of one group or category of people from others” [33]. It shapes values, attitudes, behaviors, and interactions through social structures and shared experiences [34].

Language is an essential part of processes, as it “defines the way we think, the way we perceive the world, and the way we co-operate.” [35]. Compared to face-to-face teams, virtual teams face more challenges in conveying meaning due to fewer contextual cues [36]. Poor language skills undermine communication, cohesion, and performance [37]. Members should develop multilingual competence [13][38].

Virtual teams also face social challenges in relationship building, cohesion, and trust formation [3][15]. Social interaction depends on technology capabilities and member skills to share informal communication, express emotion, and find common ground [39][40]. Cohesion emerges through shared experiences, cooperative behaviors, and a collective identity [41][42].

As an important factor in team management, trust depends on perceiving teammates as competent, caring, honest, and predictable over time [2]. In virtual teams, trust develops through promises fulfilled, values expressed, and social connections built [18][14]. Leaders can strengthen trust by empowering members, valuing diversity, and modeling desired behaviors [43][19].

The effectiveness of processes depends on understanding how geographic dispersion and technology dependence intersect with human dynamics. Progress requires cultural intelligence, inclusive practices, multilingual competence, cohesion, and trust to sustain partnerships in the pursuit of shared goals.

1.2.5.Social and Cultural Processes under Chinese Context

Chinese culture significantly impacts virtual teams in China, as geographic dispersion and electronic dependence intersect with cultural values. Chinese culture emphasizes collectivism, power distance, and high-context communication [33][44]. These shape behaviors, interactions, and technology use within teams.

Collectivism manifests as strong loyalty to groups that care for members, demanding sacrifice for the team [33][44]. Perceived as more group-oriented, Chinese virtual teams may outperform individualistic teams in cohesion and support [45].

High power distance means accepting unequal distributions of power [33]. Leadership is centralized, though leaders also show concern for members' well-being [46]. Clear hierarchies govern virtual teams, legitimizing close supervision and rewards based on rank [47].

High-context communication depends heavily on contextual cues to convey meaning, valuing implicit over direct language [47]. Nuanced communication requires rich media, but electronic channels may be perceived as too direct [37]. Sometimes, missing emotional expression might lead to a mutual misunderstanding.

1.2.6.Gender Dynamics in Virtual Teams

Gender dynamics significantly impact virtual teams. Traditional gender roles still influence shaping behaviors and interactions, though social changes also reshape on some degree. Males still have some advantages in daily work, yet women's rising participation in higher education and the workplace diversifies team compositions and power distributions [49].

Early's research suggested inherent differences between males and females that would disadvantage women in leadership and technology-intensive roles[50][51]. However, stereotypes, biases, and social structures prove more influential [49][52]. Structural barriers like work-family conflict also uniquely impact women's careers [53]. Still, as cultural attitudes and policies shift, gender dynamics in teams continue to evolve in complex ways.

Traditionally, men dominated leadership and technical positions while women assumed more relational roles like nursing, teaching, and administration [54]. Perceptions of gender roles suggest that men excel in agentic behaviors like assertiveness, ambition and problem-solving, while women master communal behaviors such as social sensitivity, empathy, and collaboration [55].

With development over time, gender stereotypes have softened but still widely exist in the workplace [56]. Females always face discrimination and disadvantages due to presumptions of lower competence and commitment [57]. However, stereotypically feminine traits like relationship building and communication increasingly prove vital for leadership and team effectiveness [58][59].

As more females achieve advanced education degrees and careers, their talent and experience strengthen teams in ways culturally feminine and masculine attributes alone do not explain [60]. Diversity of thought and life experiences, not gender alone, benefits group dynamics and problem-solving. Still, evaluations often penalize women for demonstrating counter-stereotypical assertiveness, ambition or self-reliance [61][62].

Effective virtual teams build upon a wider range of talent by lifting structural and attitudinal barriers to women's participation and influence. They establish inclusive cultures where members feel valued, heard, and able to contribute fully regardless of gender or other attributes. Such environments enhance motivation, cohesion, and performance.

With geographic distribution and technology mediating relationships, virtual teams face unique challenges in cultivating understanding and trust across gender lines [63]. However, balanced participation and mutual reliance on talent over stereotypes or social structures can strengthen the collaborative innovation, complex problem-solving, and co-leadership virtual work demands.

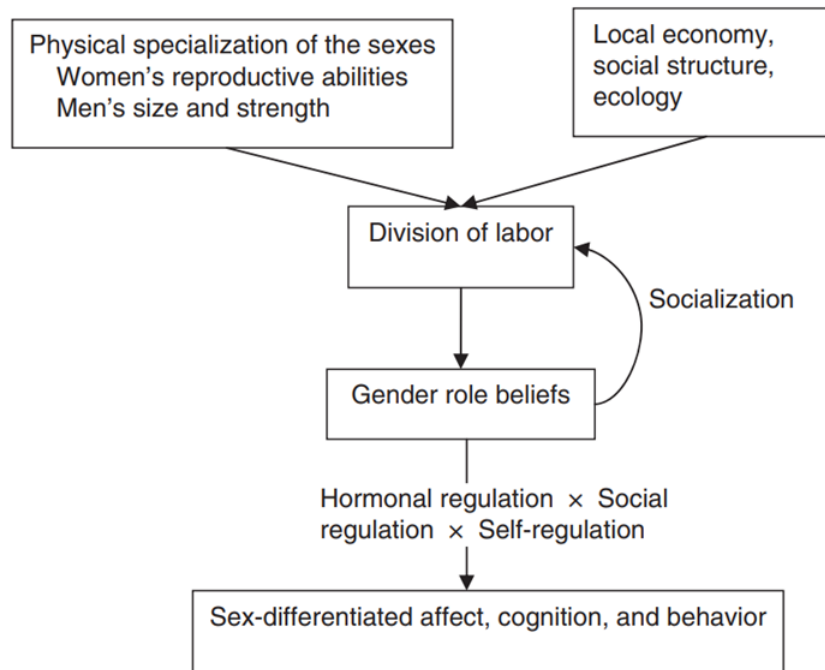
1.2.7.Social Role Theory

Social Role Theory posits that gender differences in behavior stem from the different social roles occupied by men and women in society [55][64][65]. Due to natural sex differences, people hold expectations related the recognition which develops into gender stereotypes [66]. These stereotypes shape the expectations, norms, and behaviors that individuals adopt based on gender.

Eagly proposed that gender stereotypes derive from the division of labor which allocates different roles and responsibilities to males and females. Males typically occupy agentic roles involving power and assertiveness, while females often assume communal, nurturing roles. This phenomenon leads people to associate agency more with men and communion more with women. Within mixed groups, gender stereotypes directly impact expectations for behavior [55].

Eagly and Wood put forth Social Role Theory as a framework for understanding gendered conduct [64][65]. They outlined how gender roles, emerging from biological predispositions and social factors, guide gender differences and similarities through sociopsychological processes.

Applied for analyzing virtual teams, this theory suggests that traditional gender roles may manifest in ways impacting team dynamics and performance. Members' beliefs about gender-appropriate attitudes and behaviors, especially regarding leadership, could advantage or disadvantage female members. However, the flexibility of role assignments in virtual environments may also provide opportunities for female members to occupy more influential roles.



Gender roles guide sex differences and similarities through biosocial processes by Eagly's study [55]

1.2.8.Social Identity Theory

Social Identity Theory proposes that self-concept derives from group membership [67]. It suggests that individuals categorize themselves and others into social groups, and these group memberships shape their attitudes, behaviors, and interactions. People are motivated to achieve a positive social identity that enhances self-esteem, often by viewing their groups as positively distinct from others.

Tajfel and Turner proposed that group membership shapes self-concept, even in arbitrary groups. Categorizing people into groups can lead to in-group favoritism and discrimination [67].

Individuals identify more with groups they belong to, showing in-group favoritism towards members through greater loyalty, trust, and cooperation [67]. Group identification also increases motivation and productivity [69]. For virtual teams, identifying with the team may increase cooperation, motivation, and performance [67].

1.2.9. Relational Demography Theory

Relational Demography Theory proposes that demographic differences among group members affect group outcomes. The premise is that people prefer and feel more comfortable with similar others in attributes like gender, age, and race. Demographically heterogeneous groups often experience reduced cohesion, communication issues, and impaired performance [70].

Dissimilarity can make people feel like outsiders, facing barriers to information sharing and social integration, negatively impacting group dynamics [71]. Gender, frequently studied from a relational demography perspective, illustrates this. Gender dissimilarity reduces cohesion, trust, and commitment to team tasks [72]. Gender minorities report higher strain and isolation [73]. Research links gender diversity to process loss in teams [74].

Applied to virtual teams, this theory suggests that gender differences among members may heighten relational challenges and undermine effectiveness. However, the flexibility of social interaction in virtual environments could also enable connections to form across gender boundaries, mitigating potential downsides of diversity.

1.2.10. Self-Categorization Theory

Self-Categorization Theory proposes that individuals define their self-concept along a continuum from personal to social identity depending on the context. The self-concept could incorporate individual uniqueness and identities derived from group memberships [75].

When personal identity is salient, self-perception is shaped by individual traits, relationships, and roles. But when social identity becomes activated, individuals perceive themselves in terms of the shared attributes that define the groups they belong to [75]. They emphasize perceived similarities between themselves and in-group members while exaggerating differences between groups [76].

Collective behavior depends on which level of self-definition is dominant at any given time

[75][76]. When a collective identity is salient, individuals act based on perceived group interests rather than personal interests [75][76]. They cooperate and show loyalty towards in-group members and may act antagonistically towards out-groups [90][91]. However, cooperation also depends on the strength of group identification [77].

Applied to virtual teams, this theory suggests that levels of personal and collective identity may fluctuate during interactions and shape team dynamics and outcomes [75][76][77]. It could examine how gender influences the process of self-categorization and the development of shared identity in virtual teams [75][76][77].

1.2.11. Gender Issues in China

With increasing feminism in China, more females recognize their rights in society. A report made by CATALYST in 2020 noted major gender issues in Chinese workplaces, categorized into the labor force and leadership issues. First, women's labor force participation has declined for 30 years [78]. Gender stereotypes and discrimination are also prevalent. This impacts trust and communication in teams.

Second, few women occupy leadership roles, affecting team leadership. Consequently, the gender pay gap in China ranks in the bottom third of the Global Gender Gap Index, directly relating to individual and team performance, with some gender discrimination.

While research examines gender issues in China and teams, few identify factors and impacts. Cooke notes little research on the current situation [79]. Gender roles, stereotypes, and diversity issues amplify for Chinese women in virtual teams, facing barriers. Research on team impacts is lacking but an opportunity to examine relevant dynamics in China.

1.2.12. Gender Impacts on Team Performance

Gender impacts on virtual team performance require further exploration. Gender differences in goals, communication, and accountability related to team performance [80]. Women reported higher performance and satisfaction, with generally positive impacts. Also, women's individual

performance positively impacted men [81].

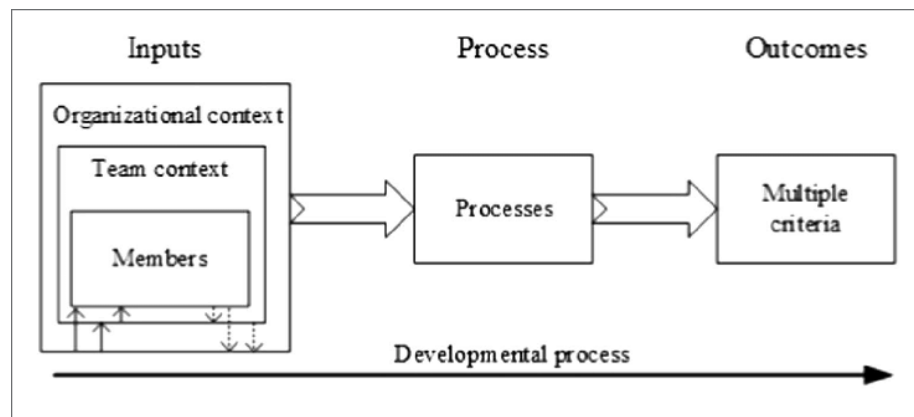
Gender diversity impacts performance depending on context, with positive effects on group process, though research is equivocal [82]. Davcheva et al. proposed an indirect model of the effects of women's proportion in teams on performance [83].

Dunaway explored gender impacts on team emotional intelligence and effectiveness as well, however, it is with model limitations [84]. Related studies on gender impacts didn't consider rapidly changing ICT, as virtual team performance research represents a limited time.

1.2.13. Big Five Theory and IMO Model

For analyzing team effectiveness, McGrath proposed the Input-Process-Output (IPO) model [85]. This model suggests the flow of inputs, processes, and outputs, influencing team performance. Building on McGrath's framework, Gladstein categorized variables into these three types [86]. According to Landy and Conte, input relates to organizational context, task characteristics, and team composition [87]. Process variables include norms, decision-making, communication, coordination, and cohesion. Output variables relate to productivity/performance, member satisfaction, and innovation. Following the IPO model, Garro-Abarca et al. proposed a model to study factors influencing virtual team performance during the pandemic, categorizing processes into tasks and socio-emotional types [88].

On the other hand, Salas' "Big Five" theory suggested five essential components for team effectiveness: leadership, mutual performance monitoring, backup behavior, adaptability, and team orientation [89]. Maynard et al. developed the IMO model from the IPO model and applied it to analyze global virtual team performance, combining the Big Five theory. They analyzed the influence of supporting processes on team effectiveness [90]. Hosseini et al. used the IMO model for qualitative research on perceived impacts on virtual team effectiveness, providing direction for future studies [91].



The input-process-output model developed by Maynard et al. [90]

1.3. Research Gaps

There is a shortage of empirical work examining how sociocultural contexts shape dynamics within virtual teams, especially concerning gender dynamics in Chinese virtual teams. Pervasive stereotypes and societal expectations continue to limit opportunities for women. However, virtuality opens new possibilities for more flexible and fair participation across groups. Companies in China struggle with management practices that do not meet the needs of today's work realities, posing risks of burnout, and work-life conflict, which might lead to high turnover. There is a lack of guidance on establishing inclusive environments and sustainable work practices in China's sociocultural context.

The key research gaps revolve around the lack of understanding of how sociocultural contexts, especially in non-Western societies like China, shape dynamics in virtual teams; limitations for women's advancement posed by pervasive stereotypes and cultural expectations; the need for guidance in establishing culturally-responsive environments and work practices in Chinese virtual teams; and extending theory on diversity and outcomes in intercultural virtual collaborations worldwide.

CHAPTER 2. RESEARCH DESIGN AND COLLECTION OF THE DATA

2.1. Methodology

Because of the nature of the research topic, research questions, and theoretical background, quantitative measures alone cannot fully capture the complex dynamics and experiences in virtual teams. Subjective perceptions and interpretations play an important role in how individuals interact and relate to one another within teams. For these reasons, a qualitative research approach is most appropriate and will yield data that provide depth and richness to understand the impacts of gender on virtual team performance.

Among qualitative methods, semi-structured interviews offer an effective technique for exploring people's experiences with and perspectives on a phenomenon like virtual teamwork. Interviews allow for a fluid conversation in which both structured and open-ended questions can get details, reflections, examples, and stories from respondents about their team interactions and relationships. The flexibility of interviews also permits following up on insights, hunches, and unexpected themes that arise to gain a multifaceted understanding of the research issues under study.

This research employs a qualitative analysis of semi-structured interviews conducted with individuals who have worked in or led virtual teams in China. The goal is to develop insight into how gender shapes virtual team dynamics, processes, and outcomes through rich descriptions and interpretations of people's diverse experiences and perceptions.

After collecting interview data, content analysis proceeded to identify and interpret themes emerging across interviews. Findings from the literature, theoretical background, and analysis of interview data yields a robust and credible interpretation of the influence of gender on key aspects of virtual team functioning like trust, cohesion, conflict, leadership, and more. The conclusions discuss both theoretical implications for extending research and practical applications that can enhance the performance and experiences of virtual teams in China.

2.2. Research Design

The semi-structured interview protocol incorporates concepts, including Social Role Theory, Social Identity Theory, Relational Demography Theory, and Self-Categorization Theory. In addition to exploring the findings, the interview is designed to gain insight into how virtual teams compare with traditional collocated teams in respondents' experiences as well. An open-ended scenario also provides respondents the opportunity to discuss how certain factors might impact virtual team dynamics.

The interview design with the theoretical support for the research ensures that data collection will address key concepts identified as relevant before the study commenced. The theories selected provide lenses through which to examine how gender shapes behaviors, relationships, and outcomes within teams.

The interview also incorporates a comparison with traditional collocated teams to gain respondents' perspectives on key differences in team experiences between the two formats and how virtuality impacts team dynamics. The open-ended scenario provides an opportunity for respondents to discuss new possibilities and speculations on how certain factors might function differently for virtual teams.

The data collected will provide rich insights into the impacts of gender and other factors on dynamics and performance in virtual teams in China. The guide questions with the Chinese translation are shown in Appendix 2.

2.3. Selection of Respondents

Respondents were selected based on the following criteria:

- At least 5 years of work experience. Requiring a minimum level of professional experience ensures that respondents can reflect on their virtual team experiences with a proper degree of maturity and insight into group dynamics, relationships, leadership, and other factors that shape team functioning over time.

- A significant proportion of work time is spent in virtual teams. Respondents who work extensively in a virtual team environment and rely heavily on remote collaboration and virtual interaction will be able to share rich details about the impacts of gender and related issues on their day-to-day team experiences.
- Managerial or leadership experience. Including respondents with experience in managerial, supervisory, or team leadership roles provides valuable perspectives on the challenges of leading and facilitating virtual teams where gender and cultural diversity may influence dynamics. Leaders can share their approaches to addressing issues that arise around trust, cohesion, conflict, and performance.
- Active engagement with social media platforms. Individuals who follow current events and discussions on social media may have a greater awareness of contemporary issues around topics like gender, technology, and flexible work arrangements that provide useful context for understanding their experiences with virtual teams.

Based on these criteria, 10 respondents were selected for in-depth interviews. Sampling for range and diversity along dimensions such as gender, age, organizational role, industry, and virtual team tenure aimed to capture a variety of experiences and generate insight into shared and distinct impacts of gender on team dynamics across these groups [92]. The sample includes both male and female respondents, leaders, and team members, from industries with significant demands for virtual collaboration.

By defining target criteria for knowledge, experience, and characteristics, respondents were selected strategically to provide data suited to the goals of this qualitative research [93]. Matching respondents to the research questions and theoretical interests of the study enhances the depth, richness, and credibility of the findings that emerge from the analysis of interview data [92]. The sample size of 10 allows for a thorough examination of each respondent's experiences while gathering diverse cases to look across for key themes. The table below shows the basic information of respondents:

Respondent List

#	Gender	Age	Job Position	Industry
1	Female	28	Operating Commissioner	Media
2	Female	30	CRM Coordinator	Software
3	Male	31	Project Engineer	Software
4	Female	30	Project Manager	IT
5	Male	30	Data Scientist	Fin-tech
6	Male	30	Game Designer	Game
7	Female	31	Event Marketing Specialist	Social Media Platform
8	Male	31	Editor	New Media – Sports
9	Female	31	System Engineer	Electronic component
10	Male	31	Product Manager	Internet

2.4. Data Analysis

A content analysis was conducted for analyzing the results of interviews with the respondents.

Data classification is followed by:

- The basic information of the industries of companies, job positions, and gender ratio interacting within virtual teams.

- Perceptions of characteristics in gender stereotypes, communication, and collaboration with the opposite-gender members.

- Views for shared identity, conflicts in personal interests and team interests.

- The main concern in virtual team collaboration and interaction.

2.5. Results

Respondent 1: A female works in a media studio (Operating Commissioner, 28)

She has been working in a media studio for 2 years. During her 5 years of work, she has always worked in virtual teams. Before this job, she used to work for a magazine. Now, her job is mainly divided into two parts. The first is about maintaining the studio's accounts on social media platforms. The second is about projects arrangement like setting the schedule, arranging the events, and contacting customers. As she mentioned, because the scale of the studio is small, the structure of management is flat, which leads to more communication in the virtual team. And the gender ratio of whom she interacts with every day is 1:1.

She indicated that her most influential part of the virtual team is her attitude in communicating with different genders. As a female, she tends to be more active with female colleagues. On the contrary, with conservative thinking, she prefers being cold and indifferent to male colleagues, and keeping some distance away from them. The effectiveness of communication she perceived is different with genders, which means she is more effective in working with females.

However, she believes that virtual teams blur the difference between genders, and she didn't mention any other factors or processes that would be influenced by gender. As for the hot topics in social media related to gender conflicts, she didn't feel any difference during her work with the heated discussion on the internet, but she perceived more respect in the company with the development of feminism in recent years.

Respondent 2: A female works in a software company (Coordinator, CRM-Internal Administration, 30)

She has been working in the customer relationship management department for 7 years. Her job is related to contacting employees from other departments and sub-companies and managing

the product keys of customers. The male-to-female ratio in her office is 1:4.

She mentioned that team leadership in virtual teams, it is perceived as weaker than in the collocated team. Because of the nature of her work, in her position, she tends to trust females more than males in virtual teams. She also indicated that she would be more active with female colleagues with wider topics beyond the ones related to work. For male colleagues, her attitude would be colder, and the topics are limited to job-related.

There are some stereotypes in her company, and they exist in virtual teams as well. Although there are no adaptability problems for different genders in the virtual teams, her office would tend to believe the stereotype that females are more careful in the work, which would also influence the collaboration and backup behavior in the virtual teams, and finally might slightly influence the performance. Although she mentioned some differences related to gender impacts in virtual teams, like Respondent 1, she also indicated that compared with collocated teams, there is a “gender blur” effect in the virtual teams. She didn’t perceive any differences related to the hot topics in gender conflicts, but she got more respect for the development of company culture.

Respondent 3: A male works in a software company (Project Engineer, CRM-External Administration, 31)

He has been working in the company for 8 years and in the same one with Respondent 3. He also works in the CRM department, but his job is related to technique and programming, and he is in a different office. Compared with Respondent 2, the male-to-female ratio in his office is more than 4:1. He indicated that, because of the nature of his work, there is also a “gender blur” effect in his office. Mutual performance monitoring, backup behavior, and adaptability are more related to job position level. Experienced employees with higher job position levels would get more trust and help newcomers, and it does not matter the gender.

As for communication in virtual teams, he tends to be more courteous to female newcomers. For contacting familiar colleagues, he would appear to be funny with males and indifferent with female colleagues. He summarized that he perceived no difference in gender impacts in virtual

teams. But, at the same time, he indicated that stereotype problems have widely existed in the company and that nearly all departments have their own gender preference, which leads to an imbalance in gender diversity in the company. He didn't perceive any differences related to the hot topics in gender conflicts.

Respondent 4: A female works in an IT company (Project Manager, 30)

She has been working as a project manager for two years. Before being a project manager, she used to work as a programmer for 5 years. The male-female ratio in her team is 4:1. Similar to other female respondents, she indicated that there would be some difference in the effectiveness of communication with different genders. At the same time, she perceived that there would be some troubles in communication between males in the virtual team. These troubles would be easier to happen in virtual teams because their expression with words might be easier to misunderstand without any emotion. On the contrary, in collocated teams, they are rare to happen, because they can have face-to-face meetings.

As for trust, she mentioned that gender is part of the reasons for selection, but it is not the only dominating factor. She perceived that female middle managers tend to be more feminine than female top managers in virtual teams. On the other hand, she believed that the "gender blur" effect would be more significant among employees. She didn't perceive any differences related to the hot topics in gender conflicts.

Respondent 5: A male works in a fin-tech company (Risk Control Data Scientist, 30)

He has been working as data scientist for 5 years. His job is also related to the position of product manager. Similar with the Respondent 4, he reflected that gender is a factor in trust, which refers to stereotype, but it is not a dominating one. As for communication in the virtual teams, he said he got no different with genders individually, however, he noticed that some employees would feel more comfortable in communicating with others in the virtual teams than the collocated teams.

He also mentioned “gender blur” in the virtual teams and said the more intense of work would lead the higher degree of “gender blur” effect. As for leadership, he perceived that female middle managers would be more aggressive than normal female employees, however, the settings of virtual teams weaken the perceived leadership. As for the hot topics in gender conflicts, he mentioned that he could perceived nothing in the aspects of individuals on the surface. But with the topics being heated, he feels that everyone is aware of it with positive attitude. And more companies begin to focus on the rights of female staff.

Respondent 6: A male works in a game company (Game Designer, 30)

He has been working as a game designer for 5 years. During the interview, the keyword he said repeatedly was effectiveness. He didn’t perceive any impacts related to traditional gender roles influencing the interaction in virtual teams. But at the same time, he holds the view that female members tend to be more focused on the tasks in virtual teams, especially during the meetings; by contrast, males are always more relaxed. He believes it may be due to the gaze of females in Chinese society. At the same time, overall, there is not much difference between males and females in the game industry. Considering the effectiveness, companies tend to decrease the length of virtual team meetings and only focus on the discussion related to the core theme of the project.

As for gender diversity, he didn’t perceive it would influence the operation of the team. He said that there are nearly no females in his team, and he nearly has no sense of shared identity with virtual team members. He didn’t feel anything special as a virtual team member and tended to be independent and professional, only talking and collaborating with others on certain tasks. He summarized that, as a game designer, he believes there is no difference between genders, as almost any different treatment could be considered a kind of discrimination.

He believes overall interests are always more important than personal ones, however, he always set a baseline for this. He thought that if most virtual team members could come together in meeting goals for the project, the team would work well. The most important factor is the effectiveness of communication, high efficiency of interaction would lead to easier and better

collaboration.

Respondent 7: A female works in an IT company which operates a social media platform (Brand Marketing Specialist, 31)

She has been working in the social media industry for five years. Till now, she has worked for two big IT companies related to the media. In her team now, all members are females. She also has gender stereotypes that are similar to other respondents, mentioned that males tend to be calmer when facing complicated problems, and they are always good at analyzing issues with rigorous logic; As for females, she thought they tend to consider others' feelings and show comprehensiveness and carefulness in solving problems.

She also mentioned the stereotypes in her team. The department she works in is about brand marketing and planning, which has much content with cross-department collaboration, and jobs are more related to ideas and creative work. In her thought, this kind of job is more fit for females.

She believes that, in her team, the effectiveness of communication is lower than in the collocated teams, even though all members are females, she admits that she feels easier to communicate with females, and the information gap among members would lead to the result to deviate from the expectation. Another reason may be due to that, sometimes people don't want to proactively start a conversation in virtual teams. And when there is a challenge related to the conflict between personal and overall interests, she would put priority on the team.

Respondent 8: A male works in a new media company related to sports news (Editor, 31)

He has been working in the company for 5 years. He indicated that, because of the features of new media and the topic of sports, he used to have gender stereotypes that females are not so professional in their work – male sports fans as the majority would like to see female editors and reporters more than male. However, with his interactions with females, he gradually changed his

idea. He mentioned that he didn't perceive too much in communicating with female team members. Compared with other respondents, he feels comfortable collaborating with females and mentioned that females are more careful in their work.

He said he has a very strong sense of shared identity. As he set a very high standard for himself, at the same time, he always proactively helps others in improving the quality of his articles. He wants his team could be more professional than other opponents in the industry. He does have some pretty good relationships with virtual team members, but it is nothing about gender, more about their communication style and professional attitude.

Most of the members of his team are males. But based on his experience, he thought females would make the atmosphere of the whole team better, and female managers are always more careful in different affairs. At least for him, he didn't perceive any barriers in collaborating with opposite-gender team members.

He used to experience a conflict between males and females in his team. From his observation, the female members dealt with the issue much better than the male, especially in their attitude, measures, and expression.

Respondent 9: A female works in an electronic component company (System Engineer, 31)

She has been working in the company for 7 years. Although the members of the virtual team she is in are all females, the gender ratio of colleagues she interacts with every day via software is 1:1. She also indicated that most females regard the processes of every task as more important, and males tend to value the result more.

As she mentioned, there is a complementary mechanism that, if males and females could express themselves properly, cross-gender collaboration would be more effective than the same gender. She also agreed with the importance of shared identity. She believed virtual teams could weaken the expression of emotion, especially for some strong emotions which might be not

proper in the workplace. With the feature of virtual teams, she could think twice and adjust her expression in the work.

She also suggested the importance of a coordinator in the team. However, there is no certain coordinator in her team. She said the duty, role, and personality would lead the person to become a good coordinator.

She suggested that gender stereotypes and discrimination in the company might be mainly due to some “scams”. Some females might be soon pregnant after joining the companies. It always means a great cost, especially when companies are in urgent need of employees. This phenomenon has shaped her view of work and collective interests as well.

Respondent 10: A male works in an internet company (Product Manager, 31)

He has been working as a product manager for 9 years in four different companies. The male-female ratio in his team is 1:1. He said, compared to traditional teams, virtual team weakens the difference between males and females, however, sometimes it might also weaken everyone’s characteristics. He also indicated that he always doesn’t feel enough shared identity, as he trying to find it, but the cohesion is scattered.

With the weaker gender differences in virtual teams, he has nearly no gender stereotypes in his team. He mentioned that, for both males and females, if members know each other well, the collaboration would be great. Or, different approaches, and habits would lead to inefficient, or failure.

He is a goal-oriented person. As a team leader, he always seeks a balance of personal interests and team interests. He indicated that different genders might have different responsibilities in families, especially, females who usually have more responsibilities in Chinese families. Compared to other countries, in China, many companies don’t have clear boundaries between work and life, which means employees still need to react soon after work. And in virtual teams,

the possibility of reacting after work becomes much higher. However, it would make members inattention in the team and finally increase the hidden danger.

2.6. Findings

Nearly all respondents indicated that they perceived difficulties to some certain degree in getting along with the other gender when they enter virtual teams. As time goes on, the atmosphere might be more relaxing due to the culture of companies. They would ignore gender differences in long-term collaboration. Virtuality increases the “gender blur” effect in teams. However, in general, they still trust the same gender slightly more than the opposite-gender team members.

Based on the interviews, gender stereotypes widely exist in China, in which people believe that males are good at solving problems with logic and calm, and females tend to care more about others’ perceptions and feelings. It fits Eagly’s findings in Social Role Theory. And from the respondents’ answers, it could be found that this phenomenon not only happens in virtual teams. As Respondent 3 mentioned:

“……我觉得也这个跟 HR 和相关专业的学生有关。HR 在招聘时就会根据部门的不同有性别倾向。比如说程序员，虽然我们组里也有女性，但是人数非常少。技术文档那边完全不招男性……” (“...I think it is also related to tendency and selection of human resource department and the gender diversity of students in related majors. Human resource departments always tend to be based on the functions and requirements of different departments. For example, programmers, we do have female members in our team, but only few. As for the department which is responsible for tech documents, they never employ males...”)

It might be also related to the team settings decision from management. The existence of gender stereotypes leads management to make relevant decisions by maximizing the utilization of human resources based on the feature of job positions. It leads to a phenomenon that, in most cases, there is a gender demography imbalance in the team.

So, when it comes to virtual teams, there is a “gender blur” effect in virtual teams for the

minority gender in gender imbalance teams. It means they must adopt the methods and approaches as the majority, no matter if it is a male team or a female team. And the features of a virtual team increase the level of the “gender blur” effect. However, for a new leader in a team, the existence of a “gender blur” effect only on certain tasks. This phenomenon influenced the functions of virtual teams, as relational demography theory suggests. As Respondent 5, who becomes a new leader 5 months ago mentioned, if possible, the team leader’s selection would still depend on gender stereotypes. He said:

“……那肯定。比如说一些需要细心工作才能完成好的活，我会尽量选女性。如果一个都是与技术相关的活，那可能就派男性了。” (“...Sure. If there are some tasks needed complete carefully, I would try to select females. If it is related to technology, I would deploy males.”)

But for an experienced leader who is in the team for a long time, the “gender blur” effect could decrease the perception of gender stereotypes in virtual teams, which could erase gender stereotypes to some degree, especially in long-term project virtual teams. As Respondent 4 described his team:

“我觉得我们团队中并没有明确的男女之分，大家的技能和教育背景都差不多。所以在工作面前大家都是平等的，表现也没有性别的区分。” (“I don't think there is a clear difference between males and females in our team, and everyone has similar skills and educational backgrounds. So everyone is equal in front of work, and there is no gender difference in performance.”)

As for shared identity, female respondents always have a strong sense of shared identity, especially during collaboration among different teams. As Respondent 3 said:

“特别是当作为自己的团队与其他团队沟通交流时会时刻有意识自己是代表自己的整个团队，要让自己看起来更专业。” (“Especially when I am as the representative of my team communicating with other teams, I want myself to be more professional.”)

By contrast, males don’t have such a strong sense. For example, Respondent 6 expressed that

he didn't perceive it at all. And from his observations, females would more focus on related topics as he mentioned above. But at the same time, shared identity depends on the situation as well. As Respondent 7 said:

“(在我的公司，) 线上团队更多的是在特定场景、特定任务下组建的临时小组，自己只是其中一环，是为了推进工作而成立，当项目结束这种关系结构就会改变。” (“(In my company,) virtual teams are more like temporary teams formed under specific scenarios and specific tasks. I am just a team member who is responsible to advance the project. This relationship structure will change when the project ends.”)

As mentioned above, in most cases, the gender composition of virtual teams is imbalanced. Most of the respondents mentioned the effectiveness of communication in virtual teams. They believe that it has a great impact on collaboration, which directly influences virtual team performance. They suggested that communication between the same gender would be more relaxing. It takes less time considering communicating methods and tasks with members of the same gender than the other ones.

As for communication and collaboration between different gender, members always hold gender stereotypes. But in some cases, from Respondent 1, 2, and 4, some members as gender minorities in virtual teams could link and unite the team. These members are always good at communicating and expressing themselves. It would generate more cohesion and trust among the team. But not too many members and not only gender minorities could do well in this. As Respondent 2 said:

“……我觉得我们组里也有男性交流起来很舒服，整个团队都能被他这样的人带动起来，不过这样的人也就一两个吧。女性成员也有比较活泼的，但是表现得过于活跃的人有时候会过火，那就出问题了。部门经理不会喜欢这样的人。” (“...I think there are one or two male members in my team who are comfortable communicating with, and the whole team can be motivated, but I can only find one or two males could do well. Some females can do well in uniting the team as well. But sometimes, if someone is too active, it might lead to some problems. The manager wouldn't like this kind of person.”)

Similar to the previous findings mentioned above, nearly all respondents perceived team interests rather than personal interests. For example, as mentioned above, Respondent 2 showed her attitude during the interview that, she is always proud of as a part of her team and the company. When facing a tough task, they suggested that overall interests are more important, and they always seek for mutual help to complete the task. At the same time, nearly all respondents indicated that there is no difference between genders in approaching the conflicts between team interests and personal interests. But females are more concerned about the process of communication and collaboration, while males pay more attention to the result of every task.

Some respondents mentioned conflicts between team members in virtual teams. For example, Respondent 4 indicated that conflicts between males seem to happen more in her virtual team than in collocated teams. Some males might struggle in expressing themselves properly with words. She reasoned that it is due to the feature of virtual teams.

She also mentioned that, as team leader, she would be the communicator to solve the problems. Other respondents, such as Respondent 3, Respondent 4, Respondent 5, and Respondent 7 expressed that, in some conflicts, they tend to be coordinators as well. However, it depends on the specific issues. Sometimes if they are not responsible for the task, as team members, they might do nothing with them.

Respondent 5 indicated that, for middle managers and team leaders, no matter whether, in collocated teams or virtual teams, their managerial and leadership styles tend to be more related to their genders – males are masculine, and females are feminine. However, for top managers, both males and females tend to be masculine.

Respondent 9 and Respondent 10 suggested, over time, cross-gender communication and collaboration would be better. They believed, if it is not a short-term project, in virtual teams, personality would play a more important role in the interaction between genders. Some members would actively adapt to the personality of others. Tacit understanding would shape a more effective collaboration in virtual teams. As Respondent 9 said:

“(关于沟通和协作，比起性别差异，)我觉得更多看性格吧，长期来看，性格要更重

要一些，有些时候默契是可以培养起来的。” (“(About communication and collaboration, compared to gender differences,) I think it depends more on personality. In the long run, personality is more important. Sometimes tacit understanding can be cultivated.”)

Some respondents mentioned the hot topics related to gender conflicts on Chinese social media platforms. They indicated that they notice some adjustments in companies, and team members, especially males, they start to take care of their expression with opposite-gender team members. They concluded that on the one hand, it is good for gender equality in teams; however, at the same time, because of some purposive hype, there is a new discrimination like an unspoken rule, which is hardly found among some males.

CHAPTER 3. RESULT DISCUSSION, CONCLUSION, THEORETICAL CONTRIBUTION AND MANAGERIAL IMPLICATION

3.1. Discussion

The interviews revealed that gender stereotypes are common in virtual teams and often stem from biases in hiring and management. The resulting gender imbalances often lead teams to assign work based on stereotypes. However, the virtual nature of teams can also obscure gender differences and increase “gender blur” as members adapt to accomplish work quickly. Still, traditional gender roles continue shaping communication, trust, and expectations.

Shared identity is commonly perceived among female team members but less so for males. As shown on Chinese social media, many discuss job burnout, overtime demands, and work-life conflict, suggesting the environment amplifies these issues in virtual teams. Discrimination also poses barriers for women to obtain good jobs. Some positions prefer women, but overall, females face more difficulties in the job market, as companies worry about pregnancy and turnover.

Communication effectiveness is essential for virtual team performance but can be challenging cross-gender. Virtuality provides space for team members to adapt expressions but can omit attitude and cause misunderstanding. Females fear misunderstandings and prefer same-gender discussions. However, good communicators of any gender can provide emotional and informational support, resolving conflicts and cross-gender concerns. Communication, cohesion, and trust improve where communicators facilitate inclusive collaboration.

While males focus on outcomes, females emphasize process. Balanced gender composition optimizes performance by integrating these perspectives. Theories of Social Identity, Social Roles, and Relational Demography suggest demographic differences like gender significantly impact group dynamics [67][55][94]. Gender stereotypes and imbalances can introduce bias, limit opportunities, and fracture shared identity, undermining trust, cohesion, and communication in teams [95][96].

However, virtuality may reduce salience of social categories like gender that typically shape behaviors and expectations in face-to-face groups [47]. This “gender blur” effect gives teams flexibility to organize around work demands instead of gender roles. With the requirement of virtual teams, more females become versatile. “Gender blur” effect, and interaction over time, the gender stereotypes become weaker. More members would find tacit understanding during the work. Good communication and inclusive practices can further diminish barriers between groups [10][98].

The environment and work demand of virtual teams in China exacerbate challenges, as extensive overtime, constant availability, and job insecurity are common complaints, disproportionately impacting women. Discrimination poses systemic barriers to women’s careers, and work-life conflict risks wellbeing for all. However, virtual work also provides autonomy and flexibility if teams establish boundaries.

But such problems are related to regulation and laws at the government level. In China, it is common to work overtime with intensive tasks. There is a term called “996” on the social media discussion which means employees work 6 days a week from 9 am to 9 pm. Even for foreign companies, the schedules for their Chinese sub-companies are tougher and more chaotic in China than other countries.

Why This Topic is Special – Imbalance Employee Situation in China

In China, one of the main concerns in management is the lack of function of trade unions that represent the right of employees. Because of sensitive reasons, unlike most cases in other countries, trade union never plays a vital role in guaranteeing and protecting the right of employees. This situation blocks the possibility of solving problems with negotiation between the company and the trade union. In order to defend rights, when there is a failure in negotiating with companies, employees have to seek arbitration, which might take much time and effort. It always leads employees in China always in a weaker position than in other countries.

There is fierce competition for employees as students surge into the job market in China. According to several media sources, there are at least 11 million students seeking jobs in 2023.

Combining the rise of the unemployment rate, makes employees become more concerned about the security of their jobs and their living. When necessary, they would sacrifice their perception and rights to guarantee the job position. However, it is not ideal for the sustainability of a company with hidden risks.

For females, pregnant-related problems and topics make them even in a weak position in the job market. Some cases could be found on social media platforms and newspapers showing that females are pregnant at once after becoming full employees. For companies, it means extra costs for seeking for others to fill in the gap. On the other hand, there is no relevant regulation on mandatory maternity leave for males. No effective regulation or laws restrict the behaviors of both employees and companies. It leads to an imbalance of the risk in hiring between males and females.

These unique features and situations make the Chinese market special in the aspect of human resource management. Sometimes foreign companies couldn't follow the same logic in operating sub-companies like in other companies. It also makes this topic become more worthy of exploration and study.

3.2. Conclusion

Reviewing hiring, management, and work practices could help identify and address discrimination, excessive demands, lack of work-life balance, and other barriers undermining well-being, motivation, and retention in virtual work. Establishing clear boundaries and reasonable expectations around availability and overtime is also critical to prevent burnout, work-life conflict, and turnover, especially for women. Leveraging flexible work arrangements optimizes opportunities for groups facing discrimination or work-life challenges to participate and advance in virtual careers. However, flexibility must still operate within a framework that values sustainability, inclusion, and balanced well-being for all members.

Virtual teams blur the gender differences and encourage employees to become versatile, which leads to the “gender blur” effect. Over time, with good communication and collaboration,

the team members will find a tacit understanding, which further blurs gender differences and gender stereotypes. Among them, the coordination and mediation at the management level and the adaptation of members play a key role. Finally, it could shape good gender dynamics in virtual teams.

For virtual teams, shared identity and trust are more difficult to build without face-to-face interaction but can be enabled through inclusive practices. Difference perception in shared identity between genders caused a sense of fragmentation. Team dynamics depend strongly on environment and leadership. Differences in values and communication styles between genders would cause a big conflict as well. Targeted interventions and coordination focused on communication, relationship building, and conflict management can help identify strategies for overcoming challenges unique to virtuality. Companies should work to establish a sense of belonging.

The missing of function in trade union makes females in a weaker position, which could lead a discrimination to them. It should be considered as the unique features. On the one hand, policymakers should establish a standardized and fair system to protect the interests of employees. On the other hand, companies, especially foreign companies which plan to enter the Chinese market, should understand these unique features and situations in China, to build more effective teams.

The rise of feminism in China leads to a demand for females to break traditional gender stereotypes in China. However, it still has a long way to go. The study goes beyond the existing literature and highlights the importance of understanding Chinese social and cultural processes in virtual team collaboration.

This research also points to promising future research directions. Researchers could examine how sociocultural contexts shape experiences and effectiveness in global virtual teams that can reveal environment-level interventions. Also, exploring intersections of gender and other attributes highlights compounding impacts on work in virtual environments. It would be an interesting topic in developing and testing interventions focused on leadership, work practices,

environment, and technology in virtual teams across cultures to help identify the best principles for global management.

3.3. Limitation

Qualitative inquiry and small sample size limiting generalizability. The findings provide rich insights but may not generalize broadly, especially globally. A larger quantitative study could strengthen generalizability.

Narrow, homogeneous sample potentially omitting other influences. The participants were highly educated, in a narrow, certain age range and worked in a limited set of industries. A wider range of education levels, professions, sectors may introduce more considerations for dynamics and outcomes in virtual teams.

Lack of objective performance measures or productivity indicators. The study focuses on experiences and relationships but lacks information on outputs, effectiveness, and productivity. Integrating performance measures would provide a more holistic assessment.

3.4. Theoretical Contribution

This qualitative study applies four theories - Social Identity Theory, Social Role Theory, Relational Demography Theory, and Self-Categorization Theory - to explore cultural values, gender dynamics and their impact on Chinese virtual teams.

The research provides evidence of influence of the gender dynamics in virtual teams, which impact collaboration, cohesion, productivity, and employee perception. The results prove the importance of coordination and mediation in cross-gender communication and collaboration. This qualitative study theoretical contributes insights into how Chinese cultural values and gender roles interact with processes of identification and categorization in virtual team environments.

In addition, it illustrates the problems widely exist in Chinese job market, which have negative impacts in rights and perception of employees, especially for females. As hidden dangers, these issues show the features in team management under the Chinese context. Contrary to some countries, findings related to the lack of function of trade union show relevant regulation gaps, explain the reason for related issues emerge on some degrees.

3.5. Managerial Implications

Setting a clear coordinator role or establishing coordination mechanisms in virtual teams for effectiveness of communication. Coordinator role could be formally assigned to facilitate communication, mediate conflicts, and ensure participation of all members. Usually it is the team leader, sometimes could be other team members who is experienced and convincing. This role is compatible with hierarchy and relationship focus while adapting authority traditionally assigned based on attributes like gender [99]. Coordinator can actively guide the development of shared mental models through practices like team building activities, which cultivate a sense of shared identity [10].

Establishing clear coordination mechanisms might provide accountability and guidance for members without constant oversight by leaders. Setting standardized practices for communicating about tasks, obstacles or changes allows members to coordinate effectively while displaying trust and autonomy [47].

Setting a standard for work-life balance in virtual teams. Work-life balance and expectations of overtime may have differential impact on female members of Chinese virtual teams. Traditional gender roles associating women with family responsibilities and work-life balance may lead to perceptions of lower commitment when women are unable to put in excessive overtime hours [99][100].

Offering resources to help all members manage work-life conflicts, such as access to childcare, flexible work arrangements and family leave for both women and men, demonstrates a commitment to well-being and work-life balance [101]. It would leading virtual teams in this

culturally progressive manner maximizes inclusion and performance. It indicates shared purpose and identity are most important regardless of members' gender or personal circumstances. Overtime work might lead imbalance in commitment in different genders, which could impact the expectation and shared identity of virtual teams. With hidden dangers in overtime collaboration, managers and team leader should decrease or even erase the overtime ratio, set a standard for better collaboration in work time.

Protecting employees from unfair treatment or burnout with regulation and laws are important for effectiveness and work-life balance in Chinese virtual teams. For policy makers, it is urgent to legislate regulation, which could stop the momentum of companies in China implementing overtime work regularly. Because of ineffective trade union, there are limited measures in decreasing overtime work and guaranteeing employees' rights. Instead, relevant regulation should be an effective measure. Till now, there are still some flaws in related regulation, which keep this tendency.

With the findings of the research, manager could refer them to adjust in building effective virtual teams. Especially in breaking the barriers of collaboration between different genders. Policy makers also could precisely take certain actions in improving the related regulation. A better understanding of the gender dynamics in Chinese virtual teams will help them find vital issues and solutions for the sustainability of teams.

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APPENDIX 1. INTERVIEW PROTOCOL

Thank you for joining this interview.

I am YAO Kewei from Graduate School of Management, St Petersburg State University. I would like to talk with you about your understanding of virtual teams. This is a part of my research, which topic related to gender dynamics in Chinese virtual teams.

Today, we will talk about your experience in virtual teams. From the interview, I want to deeply understand your daily work, perception, thoughts about virtual teams.

This interview would take within half an hour. I'll record from start to the end, in order to get all information of the interview. Just be relaxed as usual. I can ensure that all private information will be confidential.

If needed, I can answer any questions related to this interview.

Would you mind accepting and participating in this interview? Yes No

Date

APPENDIX 2. EXAMPLES OF INTERVIEW GUIDE QUESTIONS

Research Interview Guide Questions with Chinese Translation

Addressed Dimension

Examples of Guide Questions

Social Role Theory	1	<p>How do you think traditional gender roles have influenced how you interact with your virtual team members?</p> <p>Do you see differences in how males and females communicate or collaborate on the team?</p> <p>在你看来，传统的性别角色是如何影响你在线上团队与其他成员的沟通交流的？</p> <p>你是否留意到男性成员与女性成员在团队中沟通和合作中存在着不同之处？</p>
Social Identity Theory	2	<p>Do you have a strong sense of shared identity with your virtual team members?</p> <p>How has being part of the team shaped your views of yourself?</p> <p>Do you feel more connected to some teammates based on attributes like gender?</p> <p>你是否与线上团队的成员们有强烈的集体认同感？</p> <p>作为团队的一分子，在这种认同感下你是如何看待你自己的？</p> <p>你是否会因为性别的原因而与某些团队成员关系更加紧密吗？</p>

Relational Demography Theory	3	<p>How would you describe the gender composition of your team?</p> <p>Does the mix of men and women influence how the team functions? If so, how?</p>
		<p>你所在的团队的性别构成是怎样的？</p> <p>男性成员与女性成员合作是否会影响团队的运行情况吗？</p> <p>如果是，将会如何影响？</p>
Self-Categorization Theory	4	<p>When there are disagreements or conflicts within your team, how likely are you to think in terms of your personal interests vs. the overall interests of the team?</p> <p>Do you think team the opposite-gender team members approach this scenario differently?</p>
		<p>当你在团队中遇到不同意的事情或是冲突时，你是如何考虑个人利益和集体利益的？</p> <p>在你看来，在这种情景下，团队中的异性是否会有不同的处理方式？</p>
Comparison with Traditional Team	5	<p>In your experience, do virtual teams face any unique challenges related to gender diversity as compared to face-to-face teams?</p> <p>If so, what are those challenges and how have they impacted your team?</p>
		<p>在你看来，在团队成员性别均衡的问题上，与传统的线下团队相比，是否有专属于线上团队的问题与挑战？</p> <p>如果有的话，是什么问题与挑战，它们是如何影响团队</p>

的？

Open-ended Scenario

6

Imagine there is a deadline approaching that requires collaboration across your virtual team.

How effective do you think the team would be in coming together to meet this goal?

What role would team dynamics, communication challenges or other factors play in the team's success or failure?

假设你的所在的团队有一个项目临近截止时间，需要团队协作来完成。

在你看来，大家齐心协力来完成目标会很有效率吗？

团队动力，沟通方面的挑战或其他因素会对团队完成项目的成功或失败起到什么作用？

APPENDIX 3. SUMMARY OF RESPONDENT ANSWERS

Respondent #	1	2
Gender	Female	Female
Age	28	30
Industry	Media	Software
Job Position	Operating Commissioner	CRM Coordinator
Have Gender Stereotypes	YES	YES
Gender Composition in virtual Teams	Balance	More females, balance in interaction
Perceive the Differences in Communicating with Different Genders	YES	YES
Have a Sense of Shared Identity	YES, in medium level	YES, very strong
Feel more connected to teammates on same gender or not, why?	YES, no pressure; no misunderstood of relationship with	YES, no pressure; no misunderstood of relationship with

	opposite gender	opposite gender
Collaboration with Opposite Gender	More depends on ability	Have Stereotypes, a little bit
As time goes by, any differences in collaboration with opposite gender	Can make some friends, but not so many. Better in understanding colleagues	Sometimes would like to be more casual to opposite gender. Paying more attention to ability
Main issue perceived in virtual teams	Chaotic schedule; Relationship with others	Overtime work; Chaotic schedule
Personal Interests vs. Team Interests	Team interests as priority	Team interests as priority

Respondent #	3	4
Gender	Male	Female
Age	31	30
Industry	Software	IT
Job Position	Project Engineer	Project Manager
Have Gender Stereotypes	YES	YES
Gender Composition in virtual Teams	More males	More males
Perceive the Differences in Communicating with Different Genders	YES	YES
Have a Sense of Shared Identity	YES, a little bit	YES, in medium level
Feel more connected to teammates on same gender or not, why?	YES, no pressure; no misunderstood of relationship with opposite gender	YES, no pressure
Collaboration with Opposite Gender	Have Stereotype	More depends on ability

<p>As time goes by, any differences in collaboration with opposite gender</p>	<p>“Gender blur” in collaboration makes nearly no perception in gender differences</p>	<p>As a leader in the virtual team, perceiving the demands of coordinating the conflicts between team members</p>
<p>Main issue perceived in virtual teams</p>	<p>Overtime work</p>	<p>Inefficient in communication and collaboration in virtual team</p>
<p>Personal Interests vs. Team Interests</p>	<p>Team interests as priority</p>	<p>Team interests as priority</p>

Respondent #	5	6
Gender	Male	Male
Age	30	30
Industry	Fin-tech	Game
Job Position	Data Scientist	Game Designer
Have Gender Stereotypes	YES	YES
Gender Composition in virtual Teams	More males	More males
Perceive the Differences in Communicating with Different Genders	YES	NO
Have a Sense of Shared Identity	YES, a little bit	NO
Feel more connected to teammates on same gender or not, why?	YES, no pressure	NO
Collaboration with Opposite Gender	More depends on ability	No difference

<p>As time goes by, any differences in collaboration with opposite gender</p>	<p>Pay more attention to duty of different job positions. Gender stereotypes still exist, but not too much</p>	<p>“Gender blur” in virtual team. No perception in gender differences; Holds gender stereotypes on the topics related to the industry</p>
<p>Main issue perceived in virtual teams</p>	<p>Chaotic schedule</p>	<p>n/a</p>
<p>Personal Interests vs. Team Interests</p>	<p>Team interests as priority</p>	<p>Team interests as priority</p>

Respondent #	7	8
Gender	Female	Male
Age	31	31
Industry	Social Media Platform	New Media -- Sports
Job Position	Event Marketing Specialist	Editor
Have Gender Stereotypes	YES	YES
Gender Composition in virtual Teams	More females	More males
Perceive the Differences in Communicating with Different Genders	YES	YES
Have a Sense of Shared Identity	YES, in medium level, but due to the team is long-term or not	YES, in medium level
Feel more connected to teammates on same gender or not, why?	YES, more comfortable	NO

Collaboration with Opposite Gender	Have Stereotypes, a little bit	No difference
As time goes by, any differences in collaboration with opposite gender	No long-term collaboration: Holds gender stereotypes on the topics related to the industry	Understand with opposite gender more than before. Would like to be a coordinator in communication
Main issue perceived in virtual teams	Ineffectiveness in communication for every task	Chaotic schedule
Personal Interests vs. Team Interests	Team interests as priority	Team interests as priority

Respondent #	9	10
Gender	Female	Male
Age	31	31
Industry	Electronic component	Internet
Job Position	System Engineer	Product Manager
Have Gender Stereotypes	YES	YES
Gender Composition in virtual Teams	More males, balance in interaction	Balance
Perceive the Differences in Communicating with Different Genders	YES	YES
Have a Sense of Shared Identity	YES, in medium level	YES, a little bit
Feel more connected to teammates on same gender or not, why?	NO, focus on personality	NO, focus on resonance
Collaboration with Opposite Gender	No difference	No difference

<p>As time goes by, any differences in collaboration with opposite gender</p>	<p>Can cultivate tacit understanding</p>	<p>Can cultivate tacit understanding</p>
<p>Main issue perceived in virtual teams</p>	<p>Inefficient in communication and collaboration in virtual team</p>	<p>Too many things would interrupt work; Team cohesion is scattered</p>
<p>Personal Interests vs. Team Interests</p>	<p>Team interests as priority</p>	<p>Team interests as priority</p>