

The Evolution of Work: Best Practices for Avoiding Social and Organizational Isolation in
Telework Employees
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Authors Note

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ABSTRACT

Background

Research has found that social interaction and the perception of support increases satisfaction. Identifying best practices can give organizations a tool to help avoid isolation in telework employees. The purpose of this research is to identify the best practices for avoiding social and organizational isolation within telework employees. The question guiding this research is: *What best practices can organizations implement to preclude telework or remote employees from social and organizational isolation?* This paper will review the existing literature via a systematic literature review to explore the best practices for avoiding social and organizational isolation with telework employees to ensure that the telework arrangement is most effective for the employee and employer. This will enable the organization to implement a successful telework program and ensure positive organizational outcomes.

Method

Method of Inquiry: The method of inquiry is a Qualitative Systematic Literature Review

Data Collection Method: Articles were identified via bibliographic library search and snowball method from a focus article.

Data Analysis Method: Data was extracted using thematic coding in 2 cycles via Excel to extract relevant themes from 20 articles chosen.

Results

Providing face to face interactions, inclusion in information exchange, and leaders with specialized training will give telework programs some of the tools necessary for avoiding social and organizational isolation among their telework employees.

Conclusions

Social and organizational isolation can be avoided or at least minimized by implementing best practices like providing face to face interactions, inclusion in information exchange, and leaders with specialized training.

Keywords: Social Exchange Theory, Telework, Social isolation, Organizational isolation, Face to face interaction, Information technology communications

Best Practices for Avoiding Social and Organizational Isolation in Telework Employees

The Evolution of Work

According to Worldometer on February 11, 2020, there were 7.76 billion people on Earth. Some have typical employment, but many are unemployed, disabled, neurodiverse, elderly, parents or caregivers, compromised by distance, or transportation challenged. In the past, workers needed to be at work. Work was defined as the office, the factory, the shop, or the store that individuals went to everyday. What if distance was not a factor? In many knowledge workers' positions this has become a reality. Technology allows us to work from anywhere effectively removing distance from the equation and redefining work. This is where telework or working remotely becomes of such great value.

There is an outdated definition of work as a place we go rather than a set of goals or a performance that can be measured. Work has evolved from a place into a set of objectives that we complete. Telework is defined as performing all or a portion of one's work from a remote location (WorldatWork, 2008). The home is the most common place to work away from the office, but it is not the only place. Some choose to work at coffee shops, restaurants, and satellite offices. Employees want the flexibility to work from anywhere in order to meet the needs of work life balance (WorldatWork, 2008). There is a shortage of talented workers globally. Organizations need to find viable solutions to allow them to locate, employ, and retain valuable individuals. Allowing individuals to work from anywhere can open the pool of employees to endless possibilities. Telework arrangements can be one tool to use towards this end.

These arrangements are increasing in popularity as they allow employees to work for organizations that once were out of reach. Telework has the potential increase employee motivation, lower employer costs, increase productivity, increase work commitment, increase job

satisfaction, and increase scheduling flexibility. Research has shown that telework can improve the type of workers and quality of employees available to a firm. The pool of employees will not be geographically limited (O'Leary, 2010). Telework will increase the level of work and the amount of work that management can expect from employees. There are many positive outcomes that can result from telework arrangements. The problem arises when telework employees feel isolated and alone.

There is a dark side to telework that involves isolation and disconnection. Many employees are left to perform the less meaningful tasks of knowledge work from home with little to no interaction (McNaughton, 2014). For example, performing data entry from home. Many times, they do not meet their supervisors or co-workers. Information communication technology allows them to work from anywhere, but it is often not utilized properly. The same technology that has allowed the flexible work arrangements, has left some feeling controlled, stressed, lonely, isolated, and exploited (Whittle, 2009). They feel tied to their work and work comes home with them encroaching on their personal life. Home-based employees miss out on knowledge transfer and feel enslaved to their work (Whittle, 2009).

This isolation can negatively affect job satisfaction. Since telecommunication mediates social interactions and replaces face-to-face interaction, isolation can occur the more frequently an employee teleworks (Wilton, 2011). The decision to telework is influenced by peer behavior and attitude. They may fear that other employees will not respect them or even know them. Teleworkers may miss out on social interactions. Fear of isolation may limit a teleworkers desire to telework. They may fear the negative reactions of others. They may think that people at the office do not believe they work enough or that they lack competence. Teleworkers lose face-to-face and insider information. They may believe that they are out of the loop. This paper will

review extant literature to explore the best practices for avoiding social and organizational isolation with telework employees to find viable telework solutions in order to keep their talented workers globally.

Management needs to focus on examining the best existing evidence to solve problems and make decisions, this is called evidence-based management. Evidence-based management translates principles based on the best evidence into organizational practice (Rousseau, 2006). Practitioners attempt to use research evidence and translate that evidence into usable practices that solve problems within an organization (Rousseau, 2006). Evidence-based management can elevate the performance of an organization and improve their ability to make difficult decision and solve complicated problems. Systematic review is a process used to arrive at this evidence.

Systematic review is a scientific process that evaluates many existing pieces of research. The best of the available research is summarized and synthesized into useable recommendations and processes for use by practitioners or other researchers. Grant and Booth (2009) said it well when they stated that "gathering research, getting rid of rubbish and summarizing the best of what remains captures the essence of the science of systematic review." (p. 92). The systematic review has become a necessity as knowledge seekers need access to the latest high-quality evidence with trustworthy data that can be used to inform decisions (Harden & Thomas, 2005). Systematic reviews can close the gap between research and practice. The systematic review process was employed to write this paper.

As initially identified, the problem is social and organizational isolation within telework employees. Armed with advances in information technology remote work is not only possible but extremely valuable. Research posits that social interaction and the perception of support increases satisfaction. Social isolation has been associated with negative telework and

organizational outcomes (Bentley et al, 2016). The general problem identified is that telework employees experience social and organizational isolation. The specific problem identified is that social and organizational isolation may lead to negative work outcomes (Bentley et al, 2016). Identifying best practices can give organizations a tool to help avoid isolation in telework employees.

The next step is identifying the purpose. The purpose of the research is to identify the best practices for avoiding social and organizational isolation within telework employees. This will be accomplished by examining 20 different carefully selected research articles. The articles will be summarized, evaluated, and examined for reoccurring themes. These themes will be synthesized to provide organizations with a recommendation for avoiding social and organizational isolation. This will enable the organization to implement a successful telework program and ensure positive organizational outcomes.

Research Question

In order to formulate the research question, the CIMO components of the question were developed from the identified problem. The CIMO components of the research question are given below.

- **Context:** Telework Employees
- **Intervention:** Best practices to avoid social and organizational isolation (Independent Variable)
- **Mechanism:** Social Exchange Theory (Theoretical Framework)
- **Outcome:** Social and Organizational Isolation (Dependent Variable)

Therefore, the question guiding this research is: What best practices can organizations implement to preclude telework or remote employees from social and organizational isolation?

Theoretical Frame

Social Exchange Theory

Social Exchange Theory is a describes social behaviors in which individuals decide which social interactions are best for them. This theory postulates that individuals seek social situations that maximize their beliefs and minimize personal disadvantages. Individuals will weigh the benefits and costs of interactions and seek interactions that benefits them (Miller, 2015). This theory can be applied within the workplace. If an employee is not benefitting from their interactions at work, then the employee may be dissatisfied with their work situation. Therefore, it is vital to ensure that employees that work from remote locations are satisfied with their work situation.

Work has evolved from a place that we go to a set of tasks, goals, and objections that an employee completes. For the purpose of this systematic review, telework will be used to describe work that is performed away from the typical workplace. This has been made possible through innovations in technology. Telework is a flexible work arrangement in which work is performed away from the office and often at the employee's home (Doyle, 2019). This arrangement can lead employees to feel isolation from the organization.

According to social exchange theory which emerged in the 1960's individuals keep an internal balance sheet. The rewards minus the cost equal the outcome. (Miller, 2019). The organization should seek to maximize the outcome. If the social rewards are lacking and employee will seek a work situation in which their cost is minimized. This could result in a

failure of the telework arrangement. This is represented conceptually in Figure 1 below.

Organizations must identify best practices to preclude telework employees from social and organizational isolation in hopes to produce favorable work outcomes.

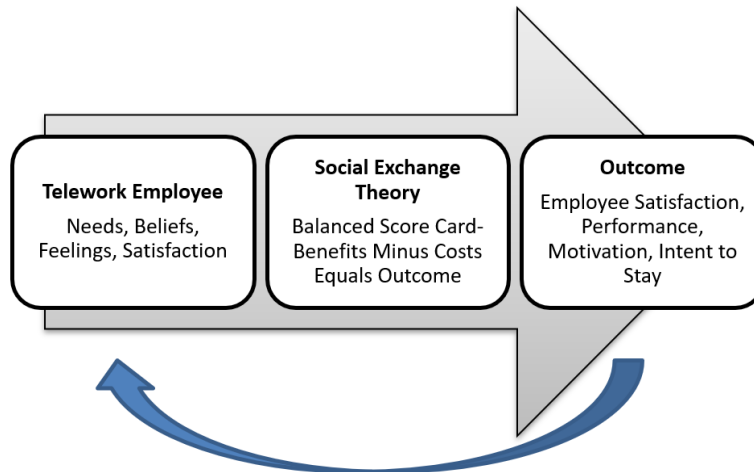


Figure 1: Social Exchange Theory and the telework employee.

Methodology

The systematic literature was used to locate the best evidence currently available. The standard stages of a systematic review are: (1) developing a user-driven review question; (2) developing a review protocol; (3) a comprehensive search for evidence; (4) applying inclusion/exclusion criteria; (5) quality assessment; (6) data extraction; and (7) synthesizing findings (Harden & Thomas, 2005). First, search strands were developed to locate the articles in various available data collections. Each article was assessed for inclusion or exclusion to choose the best available research. Next, the chosen articles will be evaluated using the Mixed Methods Appraisal Tool to assist in determining the articles quality. The best available research articles will be summarized and go through data extraction to extract themes and valuable data from the research. This data will be synthesized into themes to be used to develop recommendations for organizations. These recommendations can be used to aid organizations in making the best decisions concerning their telework employees.

Identification of Evidence

The UMUC OneSearch data base was used. OneSearch includes many databases which include Business Source Complete, ERIC, and JSTOR. A full list is available in Appendix A. Search strands were created. Also, ABI and the Snowball Method were used to search for additional articles. The search strands are represented in Figure 2. A total of 218 articles were identified. The inclusion criteria are shown in Figure 3. The articles were sorted and examined to meet inclusion criteria. After an abstract review 23 articles were identified to be included in this review. After full article review, 20 articles remained for data extraction. The entire process can be seen in the accompanying PRISMA located in Appendix B.

Search Terms	One Search	ABI	Snowball
Remote work and social isolation	155		
Telework and isolation	19		
“Remote work” and social isolation	12	7	
Telework and “Social Isolation”	20		
Snowball Method			5
Article Total	218		

Figure 2: Electronic Databases and Search Terms

Inclusion Criteria	Exclusion Criteria
Date of publication (2005 – 2019)	Date of publication (prior to 2005)
English language	Non-English
Qualitative, quantitative, or mixed methods studies	Evidence unrelated to telework or isolation
Peer review, scholarly journals, full text	Commentaries, letters, editorials

Figure 3: Inclusion and Exclusion Criteria

Quality Assessment

The Mixed Method Appraisal Tool is a set of questions designed to measure the quality of an article. The questions are sectioned into purpose, qualitative, quantitative, and mixed method sections. The reader answers a series of yes or no questions to determine the quality of the article (McGill, 2010).

For the 20 studies included in this review, there are 5 questions for each type of study. In addition, the quality for each study will be determined by calculating the number of criteria that are met within the study's respective section and then dividing this number by the total number of criteria in that section (Pluye et al, 2011). For example, there are five criteria in each section. If a study meets three of these criteria, then they have a score of 60%. Therefore, a high score represents a high-quality study.

Appendix C titled MMAT gives a summary of the quality assessment for the 20 included studies organized by score using the MMAT criteria. Using this appraisal tool, the quality of the included studies was deemed enough. All studies scored above 60 percent. Each study was summarized and coded to extract themes and results. The scores are available for review in Figure 4 below.

Score	Quality Level	Results
100%	Excellent	9 studies met this criterion
75% - 99%	Good	10 studies met this criterion
50% - 74%	Fair	1 study met this criterion
Less than 50%	Poor	0 studies met this criterion

Figure 4: Quality Assessment Levels and Results

Data Extraction

The data was extracted from each article and recorded in chart form. The author, date, population, design, main findings, and limitations were all recorded. Below is a sample chart.

The detailed and completed chart is available for review in Appendix D.

Author and year	Population or Sector	Design	Main Findings

Findings

Four themes were identified after reviewing and coding all 20 articles. These themes are listed below.

1. Isolation is worse in high frequency teleworkers. Social isolation is related to negative job outcomes. These include negative job satisfaction, organization commitment, work performance, and organizational identity (Gejendran and Harrison, 2007). The teleworkers that telecommute more than 2 times per week perceive more social and organizational isolation.
2. Teleworkers fear that they are out of sight out of mind. They perceive that their career is stagnant (Dahlstrom, 2013). They lack feedback and adequate communication. This

leaves teleworkers feeling that they are passed over for promotions and rewards. They are not confident in their abilities and have very few opportunities to demonstrate competence.

3. Teleworkers feel isolated and that they do not belong. They express a lack of support or sense of belonging. Their relationships with coworkers are strained (Golden, 2007). Organizational commitment and identification may suffer. Teleworkers lack face to face interactions. Face to face interactions are superior and necessary (Golden, 2008). They are possible with ICT's. The use of ICT and redesigning workspaces and meeting can encourage informal interactions (Robertson & Vink, 2012) There are no opportunities for informal communication or informal learning. They fear information isolation and lack of access to ideas and tacit knowledge transfer.
4. E-leaders must provide active, mutual, continuous communication through socializing activities to enhance cohesion and feelings of togetherness (Lilian, 2012). E-leader co-builds goals focusing on a team and shared identity. The collective identity allows a sense of proximity. Leader personifies mission and provides high quality communication. The e-leader can also promote the visibility of the distant teams (Ruiller, Van Der Heijden, Chedotel, & Dumas, 2019). Leadership style is important to facilitate interaction. Leader must help teleworkers feel connected to the organization and include them in recognition and rewards.

These 4 themes were used to develop the recommendations in the next section.

Recommendations

- **Encourage face to face communication using ICT or meeting in person.** Face to face communication is best because it is richer in non-verbal and paraverbal cues, minimizes communication loss, maximizes feeling of social presence and conversational involvement transmits information about social standing, and is less physically and cognitively taxing (Lilian, 2012). Allowing employees to feel included, seen, and not isolated will improve their perception of identity and satisfaction with the organization. It will also allow information to be exchanged easier and more appropriately.
- **Keep teleworkers in the loop.** Set aside time for informal communication, invitations to special events, electronic social groups, and employee discussion groups (Chewka, 2018). Structured activities, affective exchanges, and interpersonal relationships can lower isolation.
- **Allow employees to share knowledge.** Provide professional development activities. Host informal interoffice activities to build cohesion and reinforce professional respect.
- **Train and educate e-leaders.** Managers need to manage by objective, prepare formal agreements, provide incentives, and receive sensitivity training. Avoid social isolation by face to face social and informal interactions. Work to build trust, camaraderie, and effective working relationships (Golden, Vega & Dino, 2009) To reduce isolation organizations can build work and social relationships, take an active role developing communication opportunities and face to face interactions. Supervisors can be role models. Model high quality communication, feedback, and positive social interactions (McNaughton Rackensperger, Dorn, & Wilson, 2014) Appropriate leadership for this

arrangement is vital. It is necessary to define the skills needed by leaders in this situation and ensure that leaders are properly trained.

Limitations

This systematic review is not without its limitations. First, only OneSearch and ABI were used and there are many other databases left to explore. It was performed very quickly and lacks depth. Only 20 articles were used for this systematic review. Second, the MMAT focused only on the quality of the article and a second tool could have been used to assess other areas. Finally, coding was done using Excel and there are very organized and technical coding platforms available that this author needs to continue to explore.

In the future, it is recommended that more research be done to define the e-leader and the role of the e-leader. Also, what training and leadership style would be best in the e-leader. Finally, which information communication technologies are best in facilitating face-to-face interactions with the e-leader.

Conclusion

The best in available literature was explored to identify the best practices for avoiding social and organizational isolation with telework employees and to offer recommendations. This will allow organizations to implement a successful telework program and ensure positive organizational outcomes. Providing face to face interactions, inclusion in information exchange, and leaders with specialized training will give telework programs some of the tools necessary for avoiding social and organizational isolation among their telework employees.

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Appendix A

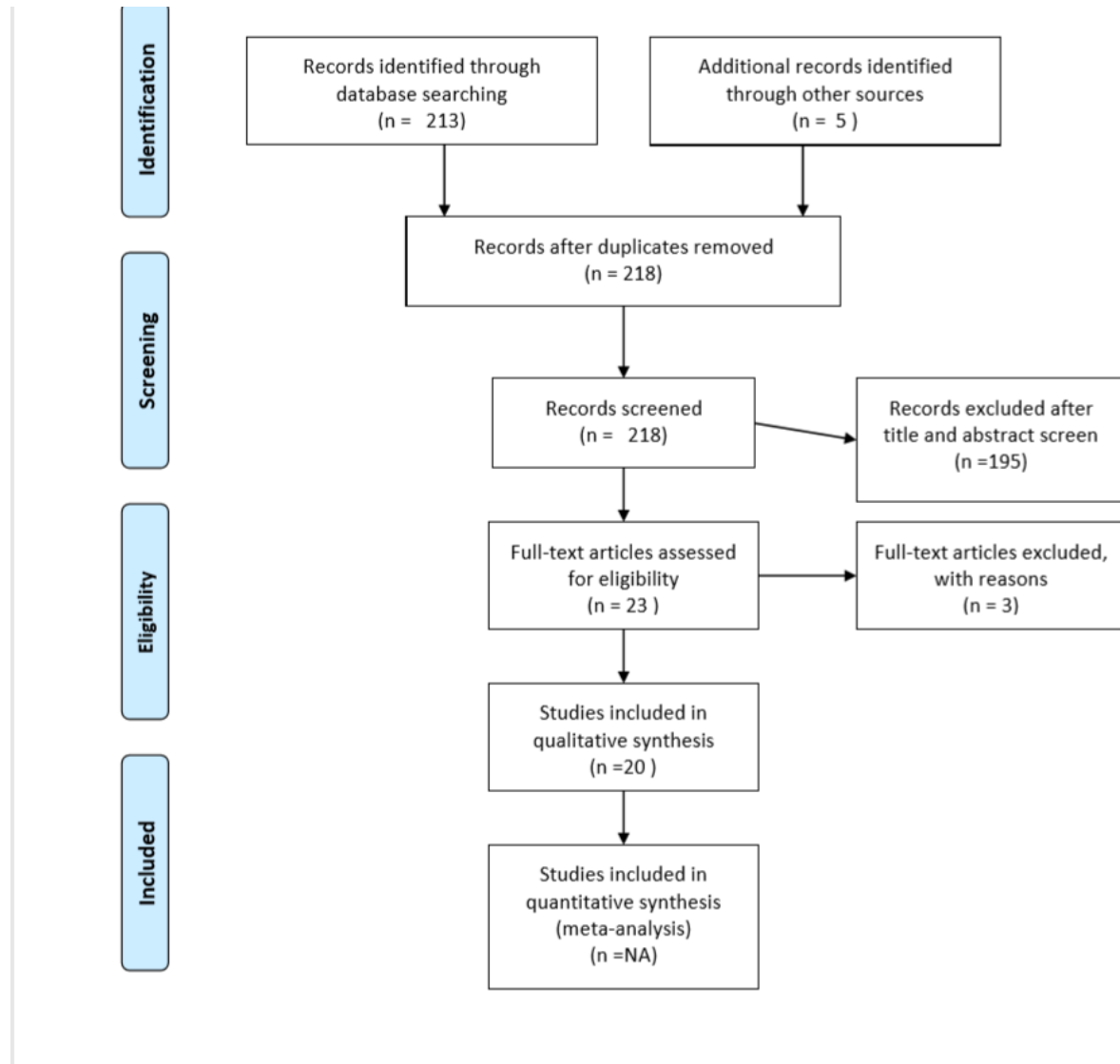
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- LegalTrac OneFile
- Library, Information Science & Technology Abstracts
- Literature Resource Center
- Litfinder
- MasterFILE Premier
- MEDLINE
- Mergent Online
- Military & Government Collection
- News OneFile
- Nursing Reference Center Plus
- OAIster
- Opposing Viewpoints in Context
- Oxford Reference
- Oxford Scholarship Online

- Political Science Complete
- Primary Search
- Professional Development Collection
- Project Muse
- PsycARTICLES
- Psychology and Behavioral Sciences Collection
- PsycINFO
- Regional Business News
- SAGE Knowledge: SAGE Reference eBook Collection
- Science in Context
- ScienceDirect
- SocINDEX with Full Text
- Teacher Reference Center
- U.S. History in Context

Appendix B

PRISMA



Appendix C

MMAT

Author(s) & Year	Score
1 Baker (2006)	80
2 Bentley (2016)	100
3 Caillier (2016)	80
4 Bartel (2012)	80
5 Chekwa (2018)	100
6 Dahlstrom (2013)	100
7 Gejendran (2007)	100
8 Golden (2007)	100
9. Golden (2009)	100
10 Golden (2008)	100
11 Hislop (2015)	60
12 Lilian (2012)	80
13 Marshall (2007)	80
14 McNaughton (2014)	80
15 Ng (2006)	80
16 O'Leary (2010)	100
17 Robertson (2012)	100
18 Ruiller (2019)	80
19 Whittle (2009)	80
20 Wilton (2011)	80

*MMAT scores using MMAT version 2018: Percentage score for 5 questions in appropriate category.

Part I: Mixed Methods Appraisal Tool (MMAT), version 2018

Category of study designs	Methodological quality criteria	Responses			
		Yes	No	Can't tell	Comments
Screening questions (for all types)	S1. Are there clear research questions?				
	S2. Do the collected data allow to address the research questions? <i>Further appraisal may not be feasible or appropriate when the answer is 'No' or 'Can't tell' to one or both screening questions.</i>				
1. Qualitative	1.1. Is the qualitative approach appropriate to answer the research question?				
	1.2. Are the qualitative data collection methods adequate to address the research question?				
	1.3. Are the findings adequately derived from the data?				
	1.4. Is the interpretation of results sufficiently substantiated by data?				
	1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?				
2. Quantitative randomized controlled trials	2.1. Is randomization appropriately performed?				
	2.2. Are the groups comparable at baseline?				
	2.3. Are there complete outcome data?				
	2.4. Are outcome assessors blinded to the intervention provided?				
	2.5. Did the participants adhere to the assigned intervention?				
3. Quantitative non-randomized	3.1. Are the participants representative of the target population?				
	3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)?				
	3.3. Are there complete outcome data?				
	3.4. Are the confounders accounted for in the design and analysis?				
	3.5. During the study period, is the intervention administered (or exposure occurred) as intended?				
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the research question?				
	4.2. Is the sample representative of the target population?				
	4.3. Are the measurements appropriate?				
	4.4. Is the risk of nonresponse bias low?				
	4.5. Is the statistical analysis appropriate to answer the research question?				
5. Mixed methods	5.1. Is there an adequate rationale for using a mixed methods design to address the research question?				
	5.2. Are the different components of the study effectively integrated to answer the research question?				
	5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?				
	5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?				
	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?				

Appendix D

Data Extraction

Author(s) & Year	Sector/Population	Design & Sample Size	Main Findings
1 Baker (2006)	Available literature/scholarly work	Qualitative Literature Review	Lack of social interaction may lower organization identity. Isolation may also limit chance for social advancement. Outreach is necessary to provide social interaction. Outreach recommendations are provided to maximize participation on the workplace. Two of these are foster social networks and socially inclusive practices.
2 Bentley (2016)	Telework employees from 26 New Zealand companies	Quantitative survey of 804 teleworkers online surveys	Organizational social support improves teleworkers well-being. Social isolation mediates job satisfaction and psychological strain. Social isolation occurs from lack of support and feedback. Support increases satisfaction and well-being. Social isolation has been associated with negative organization and telework outcomes. Feeling of isolation lower commitment. Felling out of the loop raises workplace stress.
3 Caillier (2016)	Panel data obtained from the Federal Employee Viewpoint Survey and FedScope over 4 years	Quantitative examination of panel data	Teleworkers want to perceive that the company cares. The belief is that if the organization treats the employee well then, the employee will return the favor. This is the premise of the Social Exchange Theory. Family-friendly programs are goodwill gestures. Teleworkers feel isolated due to lack of face to face interactions.
4 Bartel (2012)	Technology firm employees from Eastern US	Quantitative 2 field studies using survey data	Respect mediates physical isolation and organizational identity. Teleworkers may experience more communication that is task related and lacks respect. Physical isolation can lead to social and organizational isolation. Other employees never witness telework employee behavior

			and may not view them as competent. Greater isolation lower perceived respect. Teleworkers need experiences that confirm their status in the organization.
5 Chekwa (2018)	Available literature/scholarly work	Qualitative Literature Review	Teleworkers lack efficient communication, social support, inclusive strategies, access to resources, tacit knowledge transfer, face to face support, and employee engagement. They lack connections and are not considered for tasks. They experience information isolation. Friendships increase satisfaction and relieve stress. Need to set aside time for informal communication, invitations to special events, electronic social groups, and employee discussion groups.
6 Dahlstrom (2013)	Available literature/scholarly work	Qualitative Literature Review	Teleworkers can experience employee isolation and impediments to communication. Isolation may lead to decreased employee satisfaction and organizational commitment. Teleworkers have concerns over peer relationships and feel loneliness and frustration. They feel that they may be passed over for promotions because they are out of sight out of mind. They miss informal interactions and informal learning.
7 Gejendran (2007)	Prior scholarly studies	Theoretical framework and Meta-Analysis of 46 studies	High frequency telework harmed relationships with coworkers. It caused social isolation, career stagnation, and family conflict. Lack face to face interactions and feel that they are out of sight out of mind. Coworkers cannot see their efforts or witness their competence. They are very limited in informal interactions. More quality relationships at work lower stress and improves performance and satisfaction.
8 Golden (2007)	Large technology	Quantitative job survey	Telework has consequences beyond the teleworker. Coworker

	firm 240 professionals		relationships suffer. No informal interactions. No face to face interactions. Ideas are put off until a meeting can be arranged. It can mean altered workload for the non-teleworker. Meeting are less socially rewarding.
9. Golden (2008)	Large technology firm job survey 261 professional level teleworkers	Quantitative Job survey	Isolation negatively affected performance. This was worsened by frequency. Face to face interactions decreased the impact. Face to face interactions reduce misunderstandings and enhance exchanges. Teleworkers are less confident in abilities and knowledge. They lack feedback. They lack opportunities to share and refine tacit knowledge. When relationships and interactions suffer so does performance. Reduction in sense of belonging and interpersonal relationships results in teleworkers that are less bound to the organization. Structured activities, affective exchanges, and interpersonal relationships can lower isolation. Allow employees to share knowledge. Provide professional development activities. Host informal interoffice activities to build cohesion and reinforce professional respect. Change job design and offer developmental job assignments that allow all employees to feel more involved in the organizational functions.
10 Golden (2009)	Available literature/ scholarly work	Qualitative Literature Review	Physical separation may lower job satisfaction. Teleworkers feel out of the loop and limited in communication. Isolation is linked to lower job satisfaction. Relationships are impacted. Face to face impact is superior. Managers need to manage by objective, prepare formal agreements, provide incentives, and receive sensitivity training. Avoid social

			isolation by face to face social and informal interactions. Work to build trust, camaraderie, and effective working relationships.
11 Hislop (2015)	Self-employed homeworkers	Qualitative 14 interviews	Investigation of the use of mobile information and communication technology (ICT). Allows people to leave home without compromising work availability. ICT's can reduce social isolation Teleworks experience limited formal and informal interactions. They are limited in promotions and rewards. They have a lower sense of inclusion and have greater sense of isolation. They lack face to face interactions. They lack the ability to interact. They are unable to bounce ideas off others or receive support with problem solving. ICT's allow people to get out of the house. ICT's can be a bridge between home isolation and social experience to avoid social isolation.
12 Lilian (2012)	Available literature/ scholarly work	Qualitative Literature Review	This study focuses on e-leader challenges. ICT and GDT and the loss of face to face interaction. Effective leadership is essential. E-leaders may never meet employees in person. They rely on ICT for all communication. Face to face communication is best because it is richer in non-verbal and paraverbal cues, minimizes communication loss, maximizes feeling of social presence and conversational involvement transmits information about social standing, and is less physically and cognitively taxing. Virtual communication may lose social and contextual information like social standing or expertise. E-leaders must provide active, mutual, continuous communication through socializing activities to enhance cohesion and feelings of togetherness. This will improve team

			success, organizational value creation, and enhance feelings of togetherness.
13 Marshall (2007)	Four-sample study in 4 phases to develop a scale for measuring workplace isolation	Quantitative self-reporting scale development	Focuses of workplace isolation from the company and others. Separation from the group is viewed as negative. There is a lack of support and recognition. Interactions and networking opportunities are limited. They see no expression, gestures, or informal interaction. They feel out of sight out of mind. Teleworkers are passed over for rewards. Workplace isolation is a perception that can be mediated by increased work based social support.
14 McNaughton (2014)	9 individuals with disabilities that use AAC	Qualitative Focus Group Discussions N=9	Disabled teleworkers feel isolated and have difficulty separating work and home. For this study, participants had complex communication needs and used augmented alternative devices. These participants reported social isolation, lack of presence, no informal communication, no new projects or advancement opportunities. The positive impacts were on job satisfaction and work performance. Employees risk no relationships with coworkers, no face to face interactions, no tone of voice cues, no informal communication, less feedback, and limited recognition. To reduce isolation organizations can build work and social relationships, take an active role developing communication opportunities and face to face interactions. Supervisors can be role models. Model high quality communication, feedback, and positive social interactions.
15 Ng (2006)	Available literature/ scholarly work	Qualitative Literature Review	Teleworkers experience social and professional isolation. Out of sight out of mind belief. They are limited in promotions and rewards. They have less career opportunities, sense of

			belonging, and interactions with colleagues. They have lack of access to interpersonal networking, informal learning, mentoring, and employee development opportunities. There is lower feedback, support, and sense of belonging. This effect is worse with high frequency teleworkers.
16 O'Leary (2010)	62 geographically dispersed teams	Quantitative quasi-experimental N=62	When distance workers were further broken down into geographically dispersed teams the effects of isolation were worse. There was an in group out of group mentality. Groups began to identify with the group and not the organization. This was not the effect when a group was made up of geographically isolated individuals.
17 Robertson (2012)	Available literature/scholarly work	Qualitative Literature Review	Leadership style is important to facilitate interaction. Leader must help teleworkers feel connected to the organization and include them in recognition and rewards. The use of ICT and redesigning workspaces and meeting can encourage informal interactions.
18 Ruiller (2019)	22 interviews with telework employees	Qualitative Case Study n=22 interviews	Proximity can be overcome using ICT's. Isolation can be avoided via face to face interactions. There is the emergence of the e-leader. Social isolation impacts organizational identification. E-leader co-builds goals focusing on a team and shared identity. The collective identity allows a sense of proximity. Leader personifies mission and provides high quality communication. The e-leader can also promote the visibility of the distant team.
19 Whittle (2009)	Large European technology firm	Qualitative Case Study N= 10 Telework consultants	There is a dark side to telework that involves isolation and disconnection. Technology has allowed flexible work arrangements, yet some feel controlled, stressed, lonely, isolated, and exploited. They feel tied to their work and work comes home with them and encroaches on their personal

			life. Home based employees miss out on knowledge transfer and feel enslaved to their work.
20 Wilton (2011)	Telework employees at a technology firm	Qualitative Case Study using semi-structured interviews N=32	Social isolation can negatively affect job satisfaction. Since telecommunication mediates social interactions and replaces face to face interaction isolation can occur the more frequently an employee teleworks. The decision to telework is influenced by peer behavior and attitude. Teleworkers may miss out on social interactions. Fear of isolation may limit a teleworkers desire to telework. They may fear the negative reactions of others. Teleworkers lose face to face and insider information. These arrangements should always be made official and not informally.

*Only first author last names used

Figure: Data extraction for 20 systematic review articles chosen.